Program Structure Template

School of Allied Health Sciences
Master of Physiotherapy
(Neurology, Sports, Cardiology, Orthopaedics)

Batch – (2020-22)

Program Code – SAH0112

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

1. **Transformative educational experience**
2. **Enrichment by educational initiatives that encourage global outlook**
3. **Develop research, support disruptive innovations and accelerate entrepreneurship**
4. **Seeking beyond boundaries**

Core Values

- **Integrity**
- **Leadership**
- **Diversity**
- **Community**

Note: Detailed Mission Statements of University can be used for developing Mission Statements of Schools/ Departments.

1.2 Vision and Mission of the School

Vision of the School

To produce skilled man power in different areas of biomedical science for better healthcare delivery

Mission of the School

1. **To strengthen the main line medical and health services.**
2. **To become effective assisting and support system to medical and health personnel.**

Core Values

1. **Skilled professional**
2. **Multidimensional**
3. **Compassion**
4. **Management**

1.3 Programme Educational Objectives (PEO)

PEO1: To gain knowledge of the human body related basic medical and physiotherapeutic sciences relevant to Neurology.

PEO 2: To acquire the knowledge of movement dysfunction of human body and evidence based Physiotherapeutic management for the same.

PEO 3: To develop skills in Neurological physiotherapy assessment by relevant and current physiotherapeutic concepts.

PEO4: To plan and implement appropriate Physiotherapeutic interventions for Neurological conditions in acute and chronic phases, critical care, indoor and outdoor institutional care and independent practice.

PEO 5: To develop skills as a self-directed learner, recognize continuous education needs, select and use appropriate learning resources.

PEO 6: To develop ability to undertake research and teach undergraduate physiotherapy students.

1.3.2 Map PEOs with Mission Statements:

PEO Statements	School Mission 1	School Mission 2
PEO1:	**3**	**3**
PEO2:	**2**	**3**
PEO3:	**3**	**3**
PEO4:	**3**	**3**
PEO5:	**3**	**3**
PEO6:	**2**	**2**

1. Slight (Low) 2. Moderate (Medium) 3. Substantial (High)

1.3.3 Program Outcomes (PO's)

PO1**. Physiotherapy Knowledge:** The students will be able to possess knowledge and comprehension of the basic medicine and physiotherapeutic sciences relevant to Neurology.

PO2. **Understanding**: Students will be able to understand the coreconcepts in Physiotherapy techniques.

PO3. **Thinking ability:** Students will be able to develop the skills for neurological assessment in order to identify, examine and distinguish between various neurological conditions.

PO4. **Application:** Students will be able to demonstrate and apply the technical skills to integrate the core areas of physiotherapy practice.

PO5. **Planning:** Students will be able to design and formulate the treatment plan to address to the needs of patients safely and with appropriate regard to professional and ethical guidelines.

PO6. **Research:** Students will be able to formulate and test a hypothesis.

PO7.**Communication:**Graduates will have good leadership qualities and entrepreneur skills by working and communicating effectively in interdisciplinary environment, either independently or with a team.

Program Specific Outcomes (PSo's):

PSO1:Students will be able to assess and design a treatment plan for patients with neurological conditions.

PSO2:Students will be able to identify, select and apply advanced physiotherapy techniques for treatment purpose**.**

PSO3:Students will be able to design and formulate research which will be beneficial for the advancement in higher studies.

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

	PEO1	PEO2	PEO3	PEO4	PEO5	PEO6
PO1	3	3	3	3	3	3
PO2	3	3	3	3	3	3
PO3	3	3	3	3	3	3
PO4	3	3	3	3	3	3
PO5	3	3	3	3	3	3
PO6	3	3	3	3	3	3
PO7	3	3	3	3	3	3
PSO1	3	3	3	3	3	3
PSO2	3	3	3	3	3	3
PSO3	3	3	3	3	3	3

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

1.3.5 Program Outcome Vs Courses Mapping Table[1]:

Program Outcome Courses	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
1st Year											
Course 1.1	Research Methodology and Evidence Based Practice	2	2	2	2	2	3	2	2	2	3
Course 1.2	Basic Sciences and Biomechanics	3	3	2	2	2	2	2	2	2	2
Course 1.3	Physiotherapy Assessment and Clinical Decision Making (Theory)	3	3	3	3	2	2	3	3	2	3
Course 1.4	Advanced Physiotherapeutics (Theory)	3	3	3	3	3	2	3	2	3	3
Course 1.5	Physiotherapy Assessment and Clinical Decision Making (Practical)	3	3	3	3	2	2	3	3	2	3
Course 1.6	Advanced Physiotherapeutics (Practical)	3	3	3	3	3	2	3	2	3	3
Course 1.7	Journal Club and Clinical Case	3	2	2	3	2	3	2	2	2	3

[1] Cel value will contain the correlation value of respective course with PO.

	Presentation										
2ND Year											
Course 2.1	Pedagogy in Physiotherapy Education	2	2	2	2	1	2	3	2	2	2
Course 2.2	Administration, Management and Ethical Issues	1	1	2	2	2	3	3	2	2	3
Course 2.3	Neurological Physiotherapy I (Medical) Theory	3	3	2	2	3	2	3	2	3	3
Course 2.4	NeurologicalPhysiotherapy II (Surgical) Theory	3	3	2	2	3	2	3	2	2	2
Course 2.5	Neurological Physiotherapy I (Medical) Practical	3	3	2	2	3	2	3	2	3	3
Course 2.6	NeurologicalPhysiotherapy II (Surgical) Practical	3	3	2	2	3	2	3	2	2	2
Course 2.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
Course 2.8	Dissertation	3	3	3	3	3	3	3	3	3	3

1.3.5.2COURSE ARTICULATION MATRIX[2]

Program Outcome Courses	Course code	Course Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
Year-1													
Theory													
Course 1.1	MPT 111	Research Methodology and Evidence Based Practice	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	2	3	3	3	3	3	2	2	3	2
			CO3	2	2	3	3	3	3	3	3	3	3
			CO4	2	1	2	2	2	3	2	2	1	3
			CO5	1	2	2	2	2	3	3	1	2	3
Course 1.2	MPT 102	Basic Sciences and Biomechanics	CO1	3	3	3	3	3	2	3	3	3	2
			CO2	3	3	3	2	3	3	3	3	2	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	2	3	3	3	2	2	3	2	2
			CO5	2	3	2	3	3	2	2	3	2	1
Course 1.3	MPT 103	Physiotherapy Assessment &Clinical Decision Making (Theory)	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2

[2] Each course outcome (Based on Blooms Taxanomy-CO1, CO2, CO3, CO4, CO5, and CO6) of the course needs to map with PO. This table evolves once faculty has mapped each course outcomes of their respective course with PO's.

Course 1.4	MPT 104	Advanced Physiotherapeutics	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	2	3	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
Practical													
Course 2.1	MPT 107	Advanced Physiotherapeutics	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	2	3	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
Course 2.2	MPT 106	Physiotherapy assessment and clinical decision making	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Course 2.3	MPT 105	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Year 2													
Theory													
Course 3.1	MPT 221	Pedagogy in Physiotherapy Education	CO1	2	3	3	3	3	2	2	2	3	2
			CO2	3	3	3	3	3	2	2	3	3	3
			CO3	1	1	2	2	2	1	3	1	1	2
			CO4	1	1	2	2	2	1	3	1	1	2

			CO5	1	1	2	2	2	1	3	1	1	2
Course 3.2	MPT 202	Administration, Management and Ethical Issues	CO1	3	3	3	3	2	2	3	2	3	3
			CO2	3	3	3	2	3	3	3	3	3	3
			CO3	2	2	3	2	2	2	3	2	1	2
			CO4	2	2	3	2	2	2	3	2	1	3
			CO5	2	2	3	2	2	2	3	2	1	3
Course 3.3	MPT 223	NeurologicalPhysiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 3.4	MPT 224	NeurologicalPhysiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2
Practical													
Course 4.1	MPT 205	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.2	MPT 206	Dissertation	CO1	3	3	3	3	3	3	3	3	3	3

			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.3	MPT 225	NeurologicalPhysiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 4.4	MPT 226	NeurologicalPhysiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

Program Structure Template
School of Allied Health Sciences
MPT(Neurology)
Batch: 2020-2022
TERM: I Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[3]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
	35395	MPT 111	Research Methodology and Evidence Based Practice					Core	CC
	7926	MPT 102	Basic Sciences and Biomechanics					Core	CC
3.	7928	MPT 103	Physiotherapy Assessment and Clinical Decision Making					Core	CC
4.	7929	MPT 104	Advanced Physiotherapeutics					Core	SEC
Practical/Viva-Voce/Jury									
5.	7930	MPT 105	Journal Club and Clinical Case Presentation					Core	DSC
6.	35396	MPT 106	Physiotherapy Assessment and Clinical Decision Making					Core	SEC
7.	35397	MPT 107	Advanced Physiotherapeutics					Core	SEC
8.	35398	MPT 108	Clinical Training					Co-requisite	SEC
TOTAL CREDITS									

[3] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

Program Structure Template
School of Allied Health Sciences
MPT(Neurology)
Batch: 2020-2022
TERM: II Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[4]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
8.	35399	MPT 221	Pedagogy in Physiotherapy Education					Core	CC
9.	35400	MPT 202	Administration, Management and Ethical Issues					Core	DSC
10.	35412	MPT 223	Neurological Physiotherapy I (Medical)					Core	CC
11.	35413	MPT 224	Neurological Physiotherapy II (Surgical)					Core	CC
Practical/Viva-Voce/Jury									
12.	35414	MPT 225	Neurological Physiotherapy I (Medical)					Core	DSC
13.	35415	MPT 226	Neurological Physiotherapy II (Surgical)					Core	DSC
14.	7939	MPT 205	Journal Club and Clinical case Presentation					Core	DSC
15.	7940	MPT 206	Dissertation					Core	DSC
16.	35407	MPT 230	Clinical Training					Co-requisite	SEC
TOTAL CREDITS									

[4] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

C. Course Templates

2.1 Template A1: Syllabus for Theory Subjects

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 111	
2	Course Title	Research Methodology and Evidence Based Practice	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To explain the basic concepts, terms and definitions used in health research. 2. To understand various types of research and formulate a research question, hypothesis and related objectives. 3. To understand the concepts of Biostatistics and its use in Physiotherapy research and select best sampling method for the chosen design and estimate sample size · 4. Carry out simple analysis of collected data and interpret findings appropriately ·	
6	Course Outcomes	The student will be able to: CO1. Understand the basic concepts, terms and definitions used in health research methodology CO2. To acquire the skills of reviewing literature, formulate a hypothesis, collecting data, writing researchproposal. CO3. Describe the importance and use of Biostatistics for research work. CO4: To identify different scales of measurement used in research CO5: To read published research critically and to know how to publish a paper	
7	Course Description	This course is designed to develop the basic knowledge of research, biostatistics which can be used to understand its special needs in relation to interventions in physiotherapy.The coursewill provide a comprehensive introduction to research proposal writing, research methodologies, and foundational research theories and protocols	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Research in physiotherapy – Introduction, Research for Physiotherapist: Why? How? AndWhen?, Research – Definition, concept, purpose, approaches, Internet sites forPhysiotherapist	CO1, CO2

	B	Research Fundamentals, Define measurement, Measurement framework, Scales of measurement, Pilot Study, Types of variables, Reliability & Validity, Drawing Tables, graphs, master chartetc	CO1, CO2,CO4
	C	Writing a Research Proposal, Critiquing a research article, Defining aproblem	CO1, CO2,CO5
	Unit 2		
	A	Review of Literature, formulating a question, Operational Definition, Inclusion & Exclusion criteria, Forming groups, Data collection & analysis, Results, Interpretation, conclusion, discussion, Informed Consent, Limitations	CO1, CO2
	B	Research Design- Principle of Designing, Design, instrumentation & analysis for qualitativeresearch, Design, instrumentation & analysis for quantitative research Design, instrumentation & analysis for quasi-experimental research, Design models utilized inPhysiotherapy	CO1,CO2,CO3,CO4
	C	Research Ethics- Importance of Ethics in Research, Main ethical issues in human subjects'research,Main ethical principles that govern research with human subjects Components of an ethically valid informed consent for research	CO1,CO2
	Unit 3		
	A	Biostatistics- Introduction, Definition, Types, Application inPhysiotherapy; Data –Definition, Types, Presentation, Collectionmethods	CO1, CO3,CO4
	B	Measures of central value- Arithmetic mean, median, mode. Relationship between them, Partitioned values-	CO1, CO3,CO4

		Quatertiles, Deciles, Percentiles, Graphicaldetermination	
	C	Measures of Dispersion- Range, Mean Deviation, StandardDeviation, Normal Distribution Curve, Properties of normal distribution, Standard normal distribution,Transformation of normal random variables. Inverse transformation, Normal approximation ofBioaxial distribution.	CO1,CO2,CO3,CO4
	Unit 4		
	A	Correlation analysis- Bivariate distribution: Scatter Diagram, Coefficient of correlation, Calculation & interpretation of correlational coefficient, T-test, Z-test,P-value; Regression analysis- Lines of regression, Calculation of Regressioncoefficient	CO1, CO3,CO4
	B	Sampling- Methods of Sampling, Sampling distribution, Standard error, Types I & IIerror, Probability (inBrief),Hypothesis Testing, Null Hypothesis, Alternative hypothesis, Acceptance & rejection of nullHypothesis, Level ofsignificance	CO1, CO3,CO4
	C	Parametric & non parametric tests- Chi square test, Mann-Whitney U test, Wilcoxon Signed test, Kruskal-Wallis test, Friednam test, T-test/student T test, Analysis ofvariance	CO1, CO3,CO4
	Unit 5		
	A	Evidence–based health care, evidence–based practices	CO1, CO2
	B	evidence–based decision making and management	CO1, CO2
	C	Types of evidence - Definition of evidence, Forms of evidence, randomized controlled trials, Case–control studies, Cohort studies	CO1, CO2
	Mode of examination	Theory	
	Weightage Distribution	CA | ETE	
		20% | 80%	
	Text book/s*	1. Recent Methods for Clinical Therapists: applied	

		Project Design and analysis by Carolyn Hicks 2. Elements of Research in Physical Therapy: Dean P. Currier 3. Physical therapy Research: Principles and Applications- Elizabeth Domholdt 4. Research Methology: Kothari, C.P. 5. Methods in Biostatistics: Mahajan B.K. 6. Martin Dawes, Philip Davies, and Alistair Gray, Evidence–Based Practice: A Primer for Health Care Professionals. Elsevier Publication	
	Other References	1. Albert R. Roberts and Kenneth R. Yeager, Evidence–Based Practice Manual: Research and Outcome Measures in Health and Human Services, Oxford University Press 2. Allen Rubin, Practitioner's Guide to Using Research for Evidence–Based Practice. John Willey & Sons Publication	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	2	2	3	2
CO3	2	2	3	3	3	3	3	3	3	3
CO4	2	1	2	2	2	3	2	2	1	3
CO5	1	2	2	2	2	3	3	1	2	3

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 102	
2	Course Title	Basic Sciences and Biomechanics	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1.To providea detailed introduction on basic anatomy, physiology, structure and function of the musculoskeletal system. 2. To educate the students about the concept of exercise physiologyand its applications. 3. To encourage the students to apply the exercise physiology concepts in training and Physiotherapy. 4. To educate the students about the concepts of Biomechanics and its use in Physiotherapy.	
6	Course Outcomes	The student will be able to: CO1:Knowledge on basic anatomy, physiology, structure and function of the Neurological systems. CO2:Better understanding of physiology of exercise and energy transferthat allows humans to engage in physical activity. CO3:Knowledge about basic concepts of biomechanics of Human body, Connective & Contractile structures with respect to physiotherapy CO4: To understand the physiological needs of training and conditioning**.** CO5: Assessment of biomechanical aspect of various dysfunctions	
7	Course Description	This course is designed to develop ananatomical knowledge and clinical application of Neuroanatomy& Neurophysiology in Physiotherapy treatment. It also enables the student to have a better understanding of the principles of biomechanics and their application in Neurological and various other dysfunctionsas well as knowledge of basic and applied exercise physiology	
8	Outline syllabus		CO Mapping
	Unit 1	Structure & function of the various components of musculoskeletal system	
	A	Basic concepts definition, description, classification, practical application of force, equilibrium friction, levers, springs and pulleysMechanical properties of connective tissue viscoelasticity, creep and stress relaxation, rate dependent properties, stress and strain curves. Brief mention of specialized tissues Bone, Ligament, Tendon, Cartilage,	CO1

		Nerves	
	B	Mech. properties of Contractile Tissue, - length tension relationship, MB contraction types factor affecting MS function, Active & Passive Insufficiency	CO1
	C	Biomechanics & Pathomechanics of Spine – Vertebral column development, structure, joints, muscles of back, applied and functional anatomy, Cervical, Thoracic, Lumbosacral & pelvis Kinetics and kinematic analysis- Gait, posture & Pathological Gait	CO1
	Unit 2		
	A	Introduction to exercisephysiology, Nutrition andPerformance	CO2
	B	Energytransfer, Measurement of human energyexpenditure	CO2
	C	Systems of energy delivery andutilization in Pulmonarysystem, Cardiovascularsystem, Musculoskeletal, NervousSystem and Endocrinesystem	CO2
	Unit 3	Applied Exercise Physiology	CO2
	A	Aerobic powertraining, Anaerobic powertraining, Special aids in performance andconditioning	CO2
	B	Exercise at differentaltitudes, Exercise at various climaticconditions, Sport diving	CO2
	C	Obesity and weightcontrol, Exercise andaging, Clinical exercisephysiology	CO2
	Unit 4	**Basic Sciences**	
	A	Introduction to nervous system, Anatomy, Physiology, & functions of Nervous System – Central Nervous System Brain (Cerebral Cortex, Basal Ganglia, Cerebellum & Thalamus) Spinal Cord (Ascending & Descending (Pyramidal and Extra Pyramidal system) Tracts), Meninges and Ventricular system of C.N.S., Cerebrospinal fluid & Blood supply to C.N.S. Anatomy, Physiology, & functions Somatic Nervous System Cranial NervesSpinal Nerves, Neuromuscular Junction,Autonomic Nervous System	CO3
	B	Basic Neurophysiology- Synapse- definition, properties, Electrical signals & its transmission- Ion channels, resting membrane potential, graded potential, Generation of action Potential, Propagation of nerve impulses.	CO3
	C	Nerve fibre- Definition & properties, types, myelination, Reaction of degeneration & its clinical application. Formation of spinal nerve, peripheral nerve, dermatomes, myotomes, sclerotomes & its clinical application.	CO3
	Unit 5		
	A	Regeneration & repair of nervous tissue. Concept of Neural Plasticity. Clinical symptomatology and pathophysiology of the neurological disorders	CO3
	B	Neurophysiology of balance, coordination and locomotion.	CO3

	C	Embryonic development of Nervous System Normal sequential behavioural and Physiological changes throughout the developmental arc			CO3
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Clinical Bimechanics of the spine: White, Augustus 2. Exercise Physiology by Mc Ardle, Katch & Katch (Lippincott Williams and Wilkins, 3. Exercise Physiology:Exercise, Performance and clinical Applications by A Roberts 4. Human Anatomy by B.D. Chaurasia, Vol. 1,2nd edition; CBS publications. 5. Textbook of Anatomy by Inderbir Singh; 4th edition; Jaypee Publications. 6. Guyton : Textbook of physiology 7. Chatterjee: Textbook of physiology.			
	Other References	1. Principles of anatomy and physiology by Tortora; 8th edition; Harper & Row Pub. 2. Cunningham's Manual of Practical Anatomy; 15th edition, Vol: 1, 2, 3; Oxford Pub. 3. Clinical Anatomy for Medical Students by Richard Snell, 6th edition, Lippin Cott, Williams & Wilkins. 4. Anatomy & Physiology by Ross & Wilson's, 8th edition, Churchill Livingston. 5. Robert: Fundamentals of sensory physiology.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	3	3	3	2
CO2	3	3	3	2	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	3	3	3	2	2	3	2	2
CO5	2	3	2	3	3	2	2	3	2	1

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 103	
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Theory)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide the knowledge and skills about neurological system assessment and evaluation of patients. 2. To provide skills to develop clinical decision making for Neurological conditions. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6	Course Outcomes	CO1.Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Neurological conditions. This will help form base of professional practice with the evidence-based practice and enables the student to have a better understanding of the subject along with their application in Neurological and various other dysfunctions.	
8	Outline syllabus		CO Mapping
	Unit 1	Neurological assessment	
	A	Review of General assessment, Assessment of Higher mental functions, Cranial nerve testing, Neurodevelopment assessment,	CO1,CO2

	B	Motor Sensory, Balance & Coordination & Gait assessment,			CO1,CO4
	C	Functional assessment, Environmental assessment, Physical disability evaluation (ICF),			CO1,CO2,CO3
	Unit 2				
	A	Pain, Postural, & Nerve Tension testing Examination			CO1,CO2
	B	Various Evaluation Scales and Assessment methods used in neurological rehabilitation.			CO3
	C	Physiotherapy assessment in Neuro Intensive care unit			CO1,CO4
	Unit 3	Electro-diagnosis:			
	A	Neurophysiology, Instrumentation, Procedure, Indication contraindication & Interpretations of Nerve Conduction studies (MNCS, SNCS & Late Responses)			CO1,CO2,CO3
	B	Electromyography			CO1,CO2,CO3
	C	Evoked potentials (SSEP, MEP, BAERA, and VER)			CO1,CO2,CO3
	Unit 4				
	A	Advanced Electrotherapeutics & Clinical decision making in electrotherapeutics.			CO1,CO3
	B	Neuro-psychological functions. Perception testing and training.			CO1,CO3
	C	Principles of clinical neuro diagnosis and investigation.			CO2
	Unit 5				
	A	Investigations: -Basic Principles, Procedure, Indication, Contraindication & Interpretation (Normal & Abnormal) (in brief)- Skull X ray, Common Laboratory tests in Neurological disorders			CO1,CO2
	B	Computerized Tomography, Magnetic Resonance Imaging,			CO1
	C	Intracranial Pressure monitoring, Lumbar puncture,			CO1,CO3
	Mode of examination				
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Melzack and Wall: Text book of pain.			

		2. Physical rehabilitation by Susan B, O' Sullivan, Thomas J. Schmitz. 3. Electrodiagnosis in disease of nerve and muscles by Kimuraj J, F A Davis, Philadelphia. 4. Bickerstaff's neurological examination in clinical practice.	
	Other References	1. Neurological differential diagnosis – John Patten. 2. Dejong's the neurologic examination 3. Technique of the neurological examination: De Meyer,William E.	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	3	3
CO2	2	3	2	3	2	3	2	2	3	2
CO3	2	2	3	3	2	3	2	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch :2020-22**	
Program: MPT(Neurology)		**Current Academic Year: 2020**	
Branch:		**I Year**	
1	Course Code	MPT 106	
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Practical)	
3	Credits		
4	ContactHours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide the knowledge and skills about Nervous system assessment and evaluation of patients. 2. To provide skills to develop clinical decision making for Neurological conditions. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6	Course Outcomes	CO1. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Neurological conditions. This will help form base of professional practice with the evidence-based practice and enables the student to have a better understanding of the subject along with their application in Neurological and various other dysfunctions.	
8	Outline syllabus		CO Mapping
	Unit 1	Neurological assessment	
	A	Demonstration of Review of General assessment, Assessment of Higher mental functions, Cranial nerve testing, Neurodevelopment assessment,	CO1,CO2
	B	Demonstration of Motor Sensory, Balance & Coordination & Gait assessment,	CO1,CO4
	C	Demonstration of Functional assessment, Environmental assessment, Physical disability evaluation (ICF),	CO1,CO2,CO3
	Unit 2		
	A	Demonstration of Pain, Postural, & Nerve Tension testing Examination	CO1,CO2
	B	Able to use Various Evaluation Scales and Assessment methods used in neurological rehabilitation.	CO3
	C	Demonstration of Physiotherapy assessment in Neuro Intensive care	CO1,CO4

		unit			
	Unit 3	Interpretation of			
	A	Nerve Conduction studies (MNCS, SNCS & Late Responses)			CO1,CO2,CO3
	B	Electromyography			CO1,CO2,CO3
	C	Evoked potentials (SSEP, MEP, BAERA, and VER)			CO1,CO2,CO3
	Unit 4				
	A	Able to perform / take Clinical decision making in electrotherapeutics.			CO1,CO3
	B	Interpretation of Neuro-psychological functions. Perception testing and training.			CO1,CO3
	C	Application of Principles of clinical neuro diagnosis and investigation			CO2
	Unit 5				
	A	Interpretation of Investigations: -Basic Principles, Procedure, Indication, Contraindication & Interpretation (Normal & Abnormal) (in brief)- Skull X ray, Common Laboratory tests in Neurological disorders			CO1,CO2
	B	Interpretation of Computerized Tomography, Magnetic Resonance Imaging & Co-relation with Clinical Diagnosis			CO1
	C	Interpretation & Co-relation with Clinical Diagnosis Intracranial Pressure monitoring, Lumbar puncture,			CO1,CO3
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Dejong's the neurologic examination 2. Technique of the neurological examination: De Meyer, William E. 3. Bickerstaff's neurological examination in clinical practice.			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	3	2	3	3	2	3	3	3	2
CO4	3	2	3	3	3	2	2	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 104	
2	Course Title	Advanced Physiotherapeutics (Theory)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in NeurologicalPhysiotherapy. 2. To analyse and classify various Neurological Disorders and its management. 3. Compare & contrast the outcome of various physiotherapytreatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the Patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of Neurological conditions	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Theories of Motor Control	CO1,CO2,CO3,CO4
	B	Theories of Motor learning,	CO1,CO2,CO3
	C	Theories of aging.	CO1,CO2,CO3
	Unit 2		
	A	Bobath & Neurodevelopment technique, Brunnstrom, PNF & BiofeedbackRood's Approach, Functional Electrical Stimulation Neural mobilization technique, MFR,Motor Relearning Program, Task Oriented Training, Constrained Induced Therapy, MET,	CO1,CO2,CO3, CO4
	B	Pain management (neurobiology, various theories, modulation and management of pain)	CO1,CO2,CO3,CO4
	C	Assessment of fitness and exercise prescription for special neurological population	CO1,CO2,CO3,CO4
	Unit 3		
	A	Physiotherapy Management in Neuro-ICU	CO2,CO3
	B	Basic knowledge of drugs used for neurological conditions.	CO2,CO3
	C	Pathophysiology and Management of tonal abnormalities (Spasticity, Rigidity, Hypotonia and	CO2,CO3

		Dystonia).			
	Unit 4				
	A	Prosthetics, Orthotics & Assistive Technologies,Wheelchair Prescription & Wheelchair skills- Basic & Advanced,Environmental modifications			CO2
	B	Balance, Gait, Coordination & Vestibular training			CO2,CO3
	C	Physiotherapy in Cognitive and Perceptual disorders and other psychiatric conditions.			CO2
	Unit 5				
	A	Yogasana - Concept of Yogic Practices, Kinds of Yogic Practices, Meaning & concept of Meditation.			CO1,CO2,CO3
	B	Recent Advances in Neurological Rehabilitation.			CO2,CO3
	C	Community based rehabilitation for neurological dysfunction			CO2,CO3
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Neurological Rehabilitation: Taly, A.B. 2. Proprioceptive Neuromuscular Facilitation Knott M & Voss, Harper & Row. 3. Clinical neurophysiology: U.K.Misra, J.Kalita. 4. Motor control Theory and practice: Shumway-cook & Anne. 5. Neurological Rehabilitation: Umphred, Darcy, A. 6. Melzack and Wall: Text book of pain.			
	Other References	1. Catherine A Trombly. Occupational Therapy for physical dysfunction, Williams & Wilkins.4Ed, 1998 2. Brain and Bannister's Clinical Neurology, Sir Ruger Bannister, Oxford.7Ed, 1992 3. Introduction to nervous System – Hokmes Bullock, WH Freeman and company.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	3	2	3	3	2	3	3	3	2
CO4	3	2	3	3	3	2	2	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch: 2020-22**	
Program: MPT(Neurology)		**Current Academic Year: 2020-21**	
Branch:		I Year	
1	Course Code	MPT 107	
2	Course Title	Advanced Physiotherapeutics (Practical)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in Neurological Physiotherapy. 2. To analyse, diagnose and classify various Neurological dysfunction and their management. 3. Compare & contrast the outcome of various Neurophysiological physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of Neurological conditions	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Theories of Motor Control	CO1, CO2, CO3,CO4
	B	Theories of Motor learning,	CO1, CO2, CO3
	C	Theories of aging.	CO1, CO2, CO3
	Unit 2		
	A	Able to perform & utilize Bobath & Neurodevelopment technique, Brunnstrom, PNF & BiofeedbackRood's Approach, Functional Electrical Stimulation Neural mobilization technique, MFR,Motor Relearning Program, Task Oriented Training, Constrained Induced Therapy, MET,	CO1, CO2, CO3, CO4
	B	Implementation of Pain management (neurobiology, various theories, modulation and management of pain)	CO1, CO2, CO3, CO4
	C	Assessment of fitness and exercise prescription for special neurological population	CO1, CO2, CO3, CO4
	Unit 3		
	A	Implement Physiotherapy Management in Neuro-ICU	CO2, CO3

	B	Basic knowledge of drugs used for neurological conditions.			CO2,CO3
	C	Demonstration& utilization of Physiotherapy techniques for tonal abnormalities (Spasticity, Rigidity, Hypotonia and Dystonia).			CO2,CO3
	Unit 4				
	A	Able to identify & utilize Prosthetics, Orthotics & Assistive Technologies,Wheelchair Prescription & Wheelchair skills- Basic & Advanced,Environmental modifications			CO2
	B	Demonstration ofBalance, Gait, Coordination & Vestibular training			CO2,CO3
	C	Demonstration ofPhysiotherapy in Cognitive, Perceptual and other psychiatric conditions.			CO2
	Unit 5				
	A	Demonstration ofYogasana & Meditation for neurological disorders.			CO1,CO2,CO3
	B	Recent Advances in Neurological Rehabilitation.			CO2,CO3
	C	Able to implement Community based rehabilitation for neurological dysfunction			CO2,CO3
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Carpenter, Mental Health & Learning disability — EURETT. 2 Ed, 1998 2. Ropper, principles of Neurology, JP, 10 Ed, 2014 3. Catherine A Trombly. Occupational Therapy for physical dysfunction –, Williams & Wilkins.4Ed, 1998 71			
	Other References	1. Brain and Bannister's Clinical Neurology, Sir Ruger Bannister, Oxford.7Ed, 1992 2. Introduction to nervous System – Hokmes Bullock, WH Freeman and company,1st Ed,2000			

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		Batch :2020-22				
Program: MPT(Neurology)		Current Academic Year: 2020-21				
Branch:		I Year				
1	Course Code	MPT 105				
2	Course Title	Journal Club and Clinical Case Presentation				
3	Credits					
4	Contact Hours (L-T-P)					
	Course Type	Compulsory				
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.				
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision-making regarding diagnosis, treatment and follow-up of patients				
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.				
	Mode of examination	Practical				
	Weightage Distribution	CA				
		50				50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch :2020-22**	
Program: MPT(Neurology)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 221	
2	Course Title	Pedagogy in Physiotherapy Education	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate the students about the concepts of teaching and learning. 2. To enable them to learn about the philosophies of education. 3. To provide knowledge about curriculum, techniques, and methods of teaching.	
6	Course Outcomes	CO1. Understand the dynamics of teaching and learning. CO2. Plan effective teaching sessions in Physiotherapy. CO3: Learn method and techniques of teaching CO4: Learn meaning and concept, basis of curriculum formulation CO5: To know the use of various teaching aids	
7	Course Description	This course presents knowledge and application of different teaching methodology to the students. The course begins with core topics ofConcepts of Teaching and learning,Curriculum, various teaching methods and concept of guidance and counselling etc	
:8	Outline syllabus		CO Mapping
	Unit 1		
	A	Education: - Introduction, Educational Philosophy-Idealism Naturalism, Pragmatism	CO1,CO2
	B	Aims of Education, Functions of Education, Formal, informal and non-formalEducation,Agencies of Education	CO1,CO2
	C	Current issues and Trends in Higher Education, Issue of quality in Higher Education	CO1,CO2
	Unit 2		
	A	Meaning and scope of Educational Psychology	CO1,CO2
	B	Dynamics of behavior, Individualdifferences	CO1,CO2
	C	Method and techniques of teaching: - Lecture, Demonstration, Discussion, Seminar, Assignment, Project, CaseStudy	CO1,CO2,CO3
	Unit 3		
	A	Curriculum: - Meaning and concept, Basis of curriculum formulation, Process of curriculum development and factors involved, Evaluation ofcurriculum	CO1,CO2,CO4
	B	Framing objectivesfor curriculum, Bloom's taxonomy of instructional objectives,Writinginstructionalobjectives in behavioral	CO1,CO2,CO3,CO4

		terms	
	C	Unit planning, Lesson planning	CO1,CO2,CO3
	Unit 4		
	A	Teaching aids, Types of teaching aids, Principles of selection, preparation and use of audio- visualaides,	CO1,CO2, CO4,CO5
	B	Measurement and Evaluation, Nature of educational measurement: meaning, process, types of tests, Construction of an achievement test and its analysis,	CO1,CO2,CO3
	C	Standardized test, Introduction ofsome standardized tools, important tests of intelligence, aptitude, and personality. Continuous and comprehensiveevaluation	CO1,CO2
	Unit 5		
	A	Guidance and counseling, Meaning & concepts of guidance and counseling, Principles of guidance andcounseling	CO1,CO2
	B	Awareness Programme, awareness and guidance to the common people about health and disease	CO1,CO2
	C	Autonomy and Accountability, Privatization of Education	CO1,CO2
	Mode of examination	Theory	

	Weightage Distribution	CA		ETE	
		20		80	100
	Text book/s*	Educational Technology: A Primer for the 21st Centuryby Ronghuai Huang & J. Michael Spector & Junfeng Yang) Pedagogy and Practice: Teaching and Learningby Jo Ace			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	3	3	3	3	2	2	2	3	2
CO2	3	3	3	3	3	2	2	3	3	3
CO3	1	1	2	2	2	1	3	1	1	2
CO4	1	1	2	2	2	1	3	1	1	2
CO5	1	1	2	2	2	1	3	1	1	2

1-Slight (Low)

2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 202	
2	Course Title	Administration, Management and Ethical Issues	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about the management process and its functions. 2. To educate about the marketing and total quality management. 3. To educate the students about the role of hospital as an organisation 4. To educate about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists.	
6	Course Outcomes	CO1. Understand the basic issues of management and administration. CO2. Practice as an informed professional on legal and ethical issues in Physiotherapy. CO3 To understand the basic principle of Management and its importance. CO4: To understand the importance of hospital and how it works in different departments. CO5:To understand the role of Physiotherapy and its benefits to the society.	
7	Course Description	The course will enable the students about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists. It will help them to Practice as an informed professional on management process and its functions.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Management: Introduction, Evolution of management, Functions of management	CO1,CO3
	B	Management process – planning, organization, direction, controlling,Decision-making.	CO1,CO3
	C	Personnel management: Staffing, Recruitment selection, Performance appraisal, Collective bargaining, Jobsatisfaction.	CO1,CO3
	Unit 2		
	A	Marketing: Market segmentation, Channels of distribution, Promotion, Consumerbehaviour	CO1,CO2,CO3
	B	Total Quality Management: Basics of quality management, Quality control, Quality assurance Programme in hospitals	CO1,CO2,CO3
	C	Medical audit, International qualitysystem.	CO1,CO2
	Unit 3		
	A	Hospital as an organization - Functions and types of hospitals	CO1,CO2,CO4
	B	Roles of Physical therapist, Physical therapy Director,	CO1,CO2,C5

		Physiotherapy supervisor, Physiotherapy assistant,Physiotherapy aide, Home health aide, Volunteer.			
	C	Rules of Professional Conduct.			CO1,CO2
	Unit 4				
	A	Legal responsibility, Code of ethics			CO1,CO2
	B	Functions of Physiotherapy associations			CO1,CO2
	C	Role of the International Health Agencies			CO1,CO2
	Unit 5				
	A	Standards of practice for physiotherapists			CO1,CO2
	B	Liability and obligations in the case of medical legal action, Law of disability & discrimination			CO1,CO2
	C	Confidentially of the Patient's status, Consumer protection law, health law, MCI, DCP			CO1,CO2
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Healthcare System and management: Goel, S.L. 2. Documenting physical therapy: Baeten, Angla 3. Physical Therapy Administration & Management by Hickik 4. Management Principles for physiotherapists by Nosse Lorry J. 5. Textbook of Healthcare ethics: Loeuy, Erich H			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	3	2	3	3
CO2	3	3	3	2	3	3	3	3	3	3
CO3	2	2	3	2	2	2	3	2	1	2
CO4	2	2	3	2	2	2	3	2	1	3
CO5	2	2	3	2	2	2	3	2	1	3

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 223	
2	Course Title	Neurological Physiotherapy I (Medical) Theory	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy management of general Neurological disorders. 2. To provide knowledge about epidemiology, Patho-physiology and clinical conditions affectingNervous system. 3. To educate students about physiotherapy management for various Neurological disorders.	
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general Neurologicaldisorders. CO2. Understand about epidemiology, Patho physiology and clinical conditions affecting Nervous system. CO3. Plan physiotherapy management for various Neurological disorders. CO4: To learn about various regional Neurological conditions CO5: To learn about various investigative procedures used in Neurological Disorders.	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various Neurological disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction, etiology, Path physiology, Clinical presentation, conservative management & complications of the following clinical conditions	
	A	Disorders of cerebral circulation – i) Epidemiology of the Stoke ii) Causes, Types, Pathophysiology iii) Clinical Features and Investigation iv) Treatment of Different Type of Stroke v) Recovery and Rehabilitation vi) Stroke Prevention	CO1, CO2, CO5
	B	Head Injury- Epidemiology, Pathology, Symptoms, Signs,	CO1, CO2,

		Investigation, Management, Pre and Post-Operative Physiotherapy, Complication of Cranial Cerebral Injury (Head & Brain Injury) i) Comatose Patient ii) Closed Skull Fractures iii) Hematomas, Subdural, Epidural and Intracerebral iv) Open Cranio-cerebral Injuries v) Reconstruction Operations in Head injuries	CO5
	C	Disorders of Higher Cerebral Cortical Function and its rehabilitation Disorders of Different Lobes i) Frontal lobes ii) Temporal lobes iii) Parietal lobes iv) Occipital lobes v) Sub Cortical lesions	CO1, CO2, CO5
	Unit 2		
	A	Spinal Cord Injury- i)Types, Classifications ii) Pathology iii) Level iv) Examination v) Management &Rehabilitation vi) Bladder and Bowel dysfunction and its rehabilitation vii) Bio Engineering Appliances &Support Devices	CO1,CO2, CO5
	B	Disorders of spine & spinal cord, - i) Acute Traumatic Injuries ii) Haematomyelia and Acute Central Cervical Cord Injuries iii) Slow Progressive Compression of the Spinal Cord iv) Syringomyelia v) Ischemia and Infarction of the Spinal Cord and Cauda Equina vi) Spina-Bifida vii) Disorders of Autonomic Function after Lesions of the Spinal Cord. vii) Tumors of Spinal cord	CO1, CO2, CO5
	C	Infectious disorders of nervous system i) Meningitis ii) Encephalitis iii) Brain Abscess	CO1, CO2, CO5

		iv) Syphilis v) Herpes Simplex vi) Chorea vii) Poliomyelitis viii) Tuberculosis ix) Transverse Myelitis	
	Unit 3		
	A	Epilepsy/ Seizures – i) Epidemiology, Classification, Causes, Precipitating factors, Diagnosis, ii) Myoclonus. Demyelinating Disorders of CNS- Multiple Sclerosis Brain Tumors	CO1, CO2, CO5
	B	Degenerative disorders- Alzheimer's' Disease , Huntington's Disease , Motor Neuron Disease	CO1, CO2 CO5
	C	Movement disorders- Parkinson's Disease, Cerebellar Ataxia, Sensory Ataxia, Chorea, Athetosis, Tics, Dystonia	CO1, CO2, CO5
	Unit 4		
	A	Disorders of cranial nerves i) Testing of Cranial Nerves ii) Disorders of Cranial Nerves, Cranial Neuropathy iii) Rehabilitation Protocol	CO1, CO2,CO3,CO4
	B	Disorders of Peripheral nerves- Peripheral Neuropathies Acute Demyelinating polyneuropathy- GB Syndrome Causalgia Reflex Sympathetic Dystrophy Irradiation Neuropathy Peripheral Nerves Tumors Traumatic, Compressive and ischemic Neuropathy Spinal Radiculitis and Radiculopathy Hereditary Motor and Sensory Neuropathy Acute Idiopathic Polyneuritis/Chronic Neuropathy due to Infections Vasculomotor Neuropathy Neuropathy due to Systemic Medical Disorders Drug Induced Neuropathy	CO1, CO2, CO4
	C	Disorders of muscles & Neuromuscular Junction- i) The Myotonic Disorders ii) Inflammatory Disorders of the Muscle iii) Myasthenia Gravis iv) Endocrine Dystrophy	CO1, CO2,CO3, CO4

		v) Muscular Dystrophy			
	Unit 5				
	A	Common Paediatrics Condition & Its Rehabilitation -Paediatrics neurology (Cerebral Palsy, Developmental disorders, Neuropsychiatric disorders, Cerebral & Craniovertebral anomalies & metabolic disorders of nervous system).			CO1, CO2, CO4
	B	Congenital & hereditary Disorders-Hydrocephalous, Spina bifida, Syringomyelia,Arnold-Chiari malformation, Dandy-Walker syndrome			CO1, CO2,CO4
	C	Vestibular disorders and its rehabilitation.			CO1, CO2,CO4
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Physical Rehabilitation Assessment and Treatment by O'Sullivan, F.A. Davis, Philadelphia, 2. Neurological Rehabilitation: Umphred, Darcy, A. 3. Adams & victor's manual of Neurology, Victor Morris 4. Brain & Bannister's clinical Neurology Brannister Roger 5. Spinal cord diseases: diagnosis 6. Management of Peripheral Nerve Problems: Allan H O, George E. 7. Functional neuro rehabilitation: Berner, Julie. 8. Stroke Therapy: Fisher, Marc. 9. Patricia Davies – Right in the middle (trunk activity in hemi).			
	Other References	1. Advances in Neurology: Gordin, Ariel 2. Neurology in Clinical Practices Vol. I & II			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	1	3	3	2	2	2	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch :2020-22**	
Program: MPT (Neurology)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 225	
2	Course Title	Neurological Physiotherapy I (Medical) Practical	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy managements of general Neurological disorders. 2. To provide knowledge about epidemiology, Patho physiology and clinical conditions affectingNervous system. 3. To educate students about physiotherapy management for various Neurological disorders.	
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general Neurological disorders. CO2. Understand about epidemiology, Patho physiology and clinical conditions affecting various joints of body CO3. Plan physiotherapy management for various Neurological disorders. CO4: To learn about various Adult & PaediatricNeurological conditions CO5: To learn about various investigative procedures used in Neurological disorders	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various Neurological disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Demonstration of physiotherapy management for Disorders of cerebral circulation	CO1,CO2,CO5
	B	Demonstration of physiotherapy management in Rheumatic disorders: - Head Injury	CO1,CO2, CO5
	C	Demonstration of physiotherapy management for Higher Cerebral Cortical Function	CO1,CO2, CO5
	Unit 2		
	A	Demonstration of physiotherapy management for Spinal Cord Injury	CO1,CO2, CO5
	B	Demonstration of physiotherapy management in Disorders of spine & spinal cord-) Acute Traumatic Injuries ,	CO1, CO2, CO5

		Haematomyelia and Acute Central Cervical Cord Injuries, Slow Progressive Compression of the Spinal Cord , Syringomyelia , Ischemia and Infarction of the Spinal Cord and Cauda Equina, Spina-Bifida, Disorders of Autonomic Function after Lesions of the Spinal Cord., Tumors of Spinal cord	
	C	Demonstration of physiotherapy management in Infectious disorders of nervous system – Meningitis, Encephalitis, Brain Abscess, Syphilis, Herpes Simplex, Chorea,Poliomyelitis, Tuberculosis, Transverse Myelitis	CO1, CO2, CO5
	Unit 3		
	A	Demonstration of physiotherapy management in Epilepsy/ Seizures, Myoclonus, Demyelinating Disorders of CNS- Multiple Sclerosis Brain Tumors	CO1, CO2, CO5
	B	Demonstration of physiotherapy management in Degenerative disorders- Alzheimer's' Disease, Huntington's Disease, Motor Neuron Disease	CO1, CO2 CO5
	C	Demonstration of physiotherapy management in Movement disorders- Parkinson's Disease, Cerebellar Ataxia, Sensory Ataxia, Chorea, Athetosis, Tics, Dystonia	CO1, CO2, CO5
	Unit 4		
	A	Demonstration of physiotherapy management in Disorders of cranial nerves	CO1, CO2, CO3,CO4
	B	Demonstration of physiotherapy management in Disorders of Peripheral nerves- Peripheral Neuropathies, Acute Demyelinating polyneuropathy- GB Syndrome, Causalgia Reflex Sympathetic Dystrophy,Irradiation Neuropathy Peripheral Nerves Tumors, Traumatic, Compressive and ischemic Neuropathy, Spinal Radiculitis and Radiculopathy Hereditary Motor and Sensory Neuropathy, Acute Idiopathic Polyneuritis/Chronic, Neuropathy due to Infections, Vasculomotor Neuropathy, Neuropathy due to Systemic Medical Disorders, Drug Induced Neuropathy	CO1, CO2, CO4
	C	Demonstration of physiotherapy management in Disorders of muscles & Neuromuscular Junction- The Myotonic Disorders, Inflammatory Disorders of the Muscle, Myasthenia Gravis, Endocrine Dystrophy, Muscular Dystrophy	CO1, CO2,CO3, CO4
	Unit 5		
	A	Demonstration of physiotherapy management in Common Pediatrics Condition & Its Rehabilitation -Pediatrics neurology (Cerebral Palsy, Developmental disorders, Neuropsychiatric disorders, Cerebral & Craniovertebral	CO1, CO2, CO4

		anomalies & metabolic disorders of nervous system).			
	B	Demonstration of physiotherapy management in Congenital & hereditary Disorders-Hydrocephalous, Spina bifida, Syringomyelia, Arnold-Chiari malformation, Dandy-Walker syndrome			CO1, CO2,CO4
	C	Demonstration of physiotherapy management in Vestibular disorders and its rehabilitation.			CO1, CO2,CO4
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	10. Physical Rehabilitation Assessment and Treatment by O'Sullivan, F.A. Davis, Philadelphia, 11. Neurological Rehabilitation: Umphred, Darcy, A. 12. Adams & victor's manual of Neurology, Victor Morris 13. Brain & Bannister's clinical Neurology Brannister Roger 14. Spinal cord diseases: diagnosis 15. Management of Peripheral Nerve Problems: Allan H O, George E. 16. Functional neuro rehabilitation: Berner, Julie. 17. Stroke Therapy: Fisher, Marc. 18. Patricia Davies – Right in the middle (trunk activity in hemi).			
	Other References	3. Advances in Neurology: Gordin, Ariel 4. Neurology in Clinical Practices Vol. I & II			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	1	3	3	2	2	2	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 224	
2	Course Title	NeurologicalPhysiotherapy II (Surgical) Theory	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about orientation and general principles of Neurological surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures	
6	Course Outcomes	CO1. Understand about the orientation and general principles of Neurological Surgeries. CO2. Assess the patients following surgical procedures. CO3:Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge aboutNeurological implants. CO5: Enable the students to gain knowledge aboutCNS Surgeries, PNS Surgeries.	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of Neurological surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	General Principles of neurosurgery	CO1, CO2, CO3
	B	Disorders of CSF Fluid & circulation, - Pre &Post-Operative Rehabilitation protocol of Conditions related to Raised Intra Cranial Pressure- Hydrocephalus, Intracranial Abscess, Central Oedema Pathophysiology, Classification, Effects of Mass lesion, Symptoms and Sign, Examination Management, Pre &Post-Operative Rehabilitation protocol	CO1, CO2, CO3
	C	Management of an unconscious Patient – The Neural basis of Consciousness, Clinical Terminology, Lesions	CO1,CO2, CO3

		Responsible for Stupor and Coma, The Assessment and Investigation of the Unconscious Patient., The Diagnosis of Brain Death, The Management of the Unconscious Patient, Total Rehabilitation Protocol.	
	Unit 2		
	A	Cerebral malformations,	CO1,CO2,CO3
	B	Malformations of spine & spinal cord-Surgeries, Pre &Post-Operative Rehabilitation	CO1, CO2, CO3,CO4
	C	Surgeries for Vascular Dysfunction of Brain	CO1, CO2, CO3,CO4
	Unit 3		
	A	Surgeries for disc disorders,	CO1, CO2, CO3
	B	Surgical repair of peripheral Nerves- De-compression Nerve Suture Nerve Grafting	CO1, CO2, CO3,CO4
	C	Decompression surgeries for spinal cord – Disc Operation (Cervical, Lumbar) Stenosis Oedema, Abscess Lumber Puncture	CO1, CO2 CO3,CO5
	Unit 4		
	A	Muscle lengthening/ Release,	CO1, CO2, CO3
	B	Surgeries for Spasticity management	CO1, CO2, CO3
	C	Intensive Care Unit Management of the Neurologically Impaired Patient.	CO1, CO2, CO3
	Unit 5		
	A	Stereotactic surgery	CO1, CO2, CO3
	B	Image guided frameless stereotaxic surgery,	CO1, CO2, CO3
	C	Psychosurgery	CO1, CO2, CO3
	Mode of examination	Theory	

	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Neurological Rehabilitation: Umphred, Darcy, A. 2. Motor control Theory and practice: Shumway-cook & Anne. 3. Physical rehabilitation by Susan B, O' Sullivan, Thomas J. Schmitz.		
	Other References	1. Functional neuro rehabilitation: Berner, Julie. 2. Patricia Davies – Right in the middle (trunk activity in hemi). 3. Patricia Davies – Steps to follow (comprehensive treatment for hemi). 4. Carr & Shepherd – Neurological rehabilitation: optimizing motor performance. 5. Sydney Sunderland – Nerves and nerve injuries. Medicine by Garret		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch : 2020-2022**	
Program: MPT(Neurology)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 226	
2	Course Title	Neurological Physiotherapy II (Surgical)Practical	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about orientation and general principles of Neurological surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures	
6	Course Outcomes	CO1. Understand about the orientation and general principles of Neurological surgeries. CO2. Assess the patients following surgical procedures. CO3:Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge aboutNeurological implants CO5: Enable the students to gain knowledge aboutSurgeries of CNS & PNS in Adults & Paediatrics Neurological condition	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of Adults & Paediatrics Neurological surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	To demonstrate physiotherapy Assessment &management following Neurosurgeries	CO1,CO2,CO3
	B	To demonstrate physiotherapy management in post surgeries Conditions related to Raised Intra Cranial Pressure	CO1,CO2,CO3
	C	To demonstrate physiotherapy management for an unconscious Patient	CO1,CO2, CO3

	Unit 2		
	A	To demonstrate physiotherapy management after Cerebral malformations Surgeries.	CO1,CO2,CO3
	B	To demonstrate physiotherapy Assessment & management in Malformations of spine & spinal cord-Surgeries, Pre &Post-Operative Rehabilitation	CO1, CO2, CO3,CO4
	C	To demonstrate physiotherapy Assessment & management in Surgeries for Vascular Dysfunction of Brain	CO1, CO2, CO3,CO4
	Unit 3		
	A	To demonstrate physiotherapy Assessment & management in Surgeries for disc disorders,	CO1, CO2, CO3
	B	To demonstrate physiotherapy Assessment & management in Surgical repair of peripheral Nerves- i) De-compression ii) Nerve Suture iii) Nerve Grafting	CO1, CO2, CO3,CO4
	C	To demonstrate physiotherapy Assessment & management in Decompression surgeries for spinal cord – i) Disc Operation (Cervical, Lumbar) ii) Stenosis iii) Oedema, Abscess iv) Lumber Puncture	CO1, CO2 CO3,CO5
	Unit 4		
	A	To demonstrate physiotherapy Assessment & management in Muscle lengthening/ Release,	CO1, CO2, CO3
	B	To demonstrate physiotherapy Assessment & management in Surgeries for Spasticity management	CO1, CO2, CO3
	C	To demonstrate physiotherapy Assessment & management in Intensive Care Unit for Neurologically Impaired Patient.	CO1, CO2, CO3
	Unit 5		
	A	To demonstrate physiotherapy Assessment & management Stereotactic surgery	CO1, CO2, CO3
	B	To demonstrate physiotherapy Assessment & management in Image guided frameless stereotaxic surgery,	CO1, CO2, CO3
	C	To demonstrate physiotherapy Assessment & management in Psychosurgery	CO1, CO2, CO3
	Mode of	Practical	

	examination			
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Neurological Rehabilitation: Umphred, Darcy, A. 2. Motor control Theory and practice: Shumway-cook & Anne. 3. Physical rehabilitation by Susan B, O' Sullivan, Thomas J. Schmitz.		
	Other References	1. Functional neuro rehabilitation: Berner, Julie. 2. Patricia Davies – Right in the middle (trunk activity in hemi). 3. Patricia Davies – Steps to follow (comprehensive treatment for hemi). 4. Carr & Shepherd – Neurological rehabilitation: optimizing motor performance. 5. Sydney Sunderland – Nerves and nerve injuries. Medicine by Garret		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

School: SAHS		**Batch :2020-22**			
Program: MPT(Neurology)		**Current Academic Year: 2021-22**			
Branch:		**II Year**			
1	Course Code	MPT 205			
2	Course Title	Journal Club and Clinical Case Presentation			
3	Credits				
4	Contact Hours (L-T-P)				
	Course Type	Compulsory			
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.			
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision-making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

1-Slight (Low)

2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**		
Program: MPT(Neurology)		**Current Academic Year: 2021-22**		
Branch:		**II Year**		
1	Course Code	MPT 206		
2	Course Title	Dissertation		
3	Credits			
4	Contact Hours (L-T-P)			
	Course Type	Practical		
5	Course Objective	The objective of the course is that, the student will be able to 1. Apply the evidences for the search of new knowledge. 2. To develop efficient research methodology. 3. To improve the scientific literature writing.		
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Gain knowledge about formulation of research protocol CO2: Apply research Methodology and skills to complete the research dissertation CO3: Develop the skill to publish and present the research CO4: Methods of scientific literature review and writing. CO5: Evidence based implementation of various research protocols.		
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.		
	Mode of examination	Practical		
	Weightage Distribution	CA	ETE	
		20%	80%	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

Program Structure Template

School of Allied Health Sciences
Master of Physiotherapy
(Sports)

Batch – (2020-22)

Program Code – SAH0112

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

1. **Transformative educational experience**
2. **Enrichment by educational initiatives that encourage global outlook**
3. **Develop research, support disruptive innovations and accelerate entrepreneurship**
4. **Seeking beyond boundaries**

Core Values

- **Integrity**
- **Leadership**
- **Diversity**
- **Community**

Note: Detailed Mission Statements of University can be used for developing Mission Statements of Schools/ Departments.

1.2 Vision and Mission of the School

Vision of the School

To produce skilled man power in different areas of biomedical science for better healthcare delivery

Mission of the School

1. **To strengthen the main line medical and health services.**
2. **To become effective assisting and support system to medical and health personnel.**

Core Values

1. **Skilled professional**
2. **Multidimensional**
3. **Compassion**
4. **Management**

1.3 Programme Educational Objectives (PEO)

PEO1: To gain knowledge of the human body related basic medical and physiotherapeutic sciences.

PEO 2: To acquire the knowledge of movement dysfunction of human body and evidence based Physiotherapeutic management for the same.

PEO 3: To develop skills in sports physiotherapy assessment by relevant and current physiotherapeutic concepts.

PEO4: To plan and implement appropriate Physiotherapeutic interventions for sports conditions in acute and chronic phases, critical care, indoor and outdoor institutional care and independent practice.

PEO 5: To develop skills as a self-directed learner, recognize continuous education needs, select and use appropriate learning resources.

PEO 6: To develop ability to undertake research and teach undergraduate physiotherapy students.

1.3.2 Map PEOs with Mission Statements:

PEO Statements	School Mission 1	School Mission 2
PEO1:	**3**	**3**
PEO2:	**2**	**3**
PEO3:	**3**	**3**
PEO4:	**3**	**3**
PEO5:	**3**	**3**
PEO6:	**2**	**2**

1. Slight (Low) 2. Moderate (Medium) 3. Substantial (High)

1.3.3 Program Outcomes (PO's)

PO1. **Physiotherapy Knowledge:** The students will be able to possess knowledge and comprehension of the basic medicine and physiotherapeutic sciences relevant to sports.

PO2. **Understanding**: Students will be able to understand the core concepts in sports physiotherapy techniques.

PO3. **Thinking ability:** Students will be able to develop the skills for sports assessment in order to identify, examine and distinguish between various musculoskeletal conditions in sports.

PO4. **Application:** Students will be able to demonstrate and apply the technical skills to integrate the core areas of physiotherapy practice.

PO5. **Planning:** Students will be able to design and formulate the treatment plan to address to the needs of patients safely and with appropriate regard to professional and ethical guidelines.

PO6. **Research:** Students will be able to formulate and test a hypothesis.

PO7. **Communication:** Students will have good leadership qualities and entrepreneur skills by working and communicating effectively in interdisciplinary environment, either independently or with a team.

Program Specific Outcomes (PSo's):

PSO1: Students will be able to assess and design a treatment plan for patients with musculoskeletal conditions in sports

PSO2: Students will be able to identify, select and apply advanced physiotherapy techniques for treatment purpose**.**

PSO3: Students will be able to design and formulate research which will be beneficial for the advancement in higher studies.

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

	PEO1	PEO2	PEO3	PEO4	PEO5	PEO6
PO1	3	3	3	3	3	3
PO2	3	3	3	3	3	3
PO3	3	3	3	3	3	3
PO4	3	3	3	3	3	3
PO5	3	3	3	3	3	3
PO6	3	3	3	3	3	3
PO7	3	3	3	3	3	3
PSO1	3	3	3	3	3	3
PSO2	3	3	3	3	3	3
PSO3	3	3	3	3	3	3

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

1.3.5 Program Outcome Vs Courses Mapping Table[1]:

Program Outcome Courses	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
1st Year											
Course 1.1	Research Methodology and Evidence Based Practice	1	1	1	1	1	3	2	2	2	3
Course 1.2	Basic Medical and Paraclinical Sciences	2	2	3	2	2	3	3	3	2	3
Course 1.3	Sports Biomechanics and Kinanthropometry	3	2	3	2	3	2	3	3	2	2
Course 1.4	Assessment and Evaluation in Sports Physiotherapy(Theory)	3	3	3	3	3	2	3	3	3	3
Course 1.5	Basic and Applied Exercise Physiology	2	2	2	3	3	3	3	3	3	3
Course 1.6	Assessment and Evaluation in Sports Physiotherapy(Practical)	2	2	2	3	3	3	3	3	3	3
Course 1.7	Seminars,Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
2ND Year											
Course 2.1	Sports psychology	2	2	3	3	3	3	3	3	3	3

[1] Cel value will contain the correlation value of respective course with PO.

Course 2.2	Pedagogy and ethics in physiotherapy	1	1	2	2	2	3	3	2	2	3
Course 2.3	Traumatic and non traumatic conditions of athletes	3	3	3	3	3	3	3	3	3	3
Course 2.4	Medical aspects of sports medicine	3	3	3	3	3	3	3	2	2	3
Course 2.5	Sports physiotherapy methods	3	3	3	3	3	3	3	3	3	3
Course 2.6	Current concepts in sports medicine	3	3	3	3	3	3	3	2	3	3
Course 2.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
Course 2.8	Dissertation	3	3	3	3	3	3	3	3	3	3

1.3.5.2COURSE ARTICULATION MATRIX[2]

Program Outcome Courses	Course code	Course Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO2	PSO3
Year-1													
Theory													
Course 1.1	MPT 111	Research Methodology and Evidence Based Practice	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	2	3	3	3	3	3	2	2	3	2
			CO3	2	2	3	3	3	3	3	3	3	3
			CO4	2	1	2	2	2	3	2	2	1	3
			CO5	1	2	2	2	2	3	3	1	2	3
Course 1.2	MPT 112	Basic Medical and Paraclinical Sciences	CO1	3	2	3	3	3	2	3	3	3	2
			CO2	3	2	3	2	3	3	3	3	1	2
			CO3	2	2	3	2	2	2	3	2	2	3
			CO4	2	2	3	3	3	2	2	3	2	2
			CO5	2	2	3	3	3	3	2	3	2	1
Course 1.3	MPT 113	Sports Biomechanics and Kinanthropometry	CO1	3	2	2	3	3	3	2	2	2	3
			CO2	3	2	2	3	3	3	2	2	2	3
			CO3	3	2	3	3	3	3	2	2	2	2
			CO4	2	2	3	3	2	3	2	2	1	2

[2] Each course outcome (Based on Blooms Taxanomy-CO1, CO2, CO3, CO4, CO5, and CO6) of the course needs to map with PO. This table evolves once faculty has mapped each course outcomes of their respective course with PO's.

			CO5	1	1	2	3	2	2	3	2	3	2
Course 1.4	MPT 114	Assessment and Evaluation in Sports Physiotherapy (Theory)	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Course 1.5	MPT 115	Basic and Applied Exercise Physiology	CO1	3	2	3	3	3	3	3	3	3	2
			CO2	2	2	2	3	3	3	3	3	3	3
			CO3	3	2	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
			CO5	3	2	2	2	3	3	2	3	2	3
Practical													
Course 2.1	MPT 117	Assessment and Evaluation in Sports Physiotherapy (Practical)	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Course 2.2	MPT 116	Seminar,Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3

			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Year 2													
Theory													
Course 3.1	MPT 231	Sports psychology	CO1	2	2	3	3	3	3	3	3	3	3
			CO2	2	2	2	3	3	3	3	3	3	3
			CO3	2	2	3	3	3	3	3	3	3	3
			CO4	2	2	2	3	3	3	3	3	3	3
			CO5	2	2	2	3	3	3	3	3	3	3
Course 3.2	MPT 232	Pedagogy and ethics in Physiotherapy	CO1	1	2	2	2	2	3	3	1	1	2
			CO2	1	1	1	2	2	3	2	1	2	2
			CO3	1	1	1	2	2	3	2	1	2	2
			CO4	1	1	1	2	3	3	2	1	2	2
			CO5	1	1	1	2	3	3	2	1	2	2
Course 3.3	MPT 233	Traumatic and non traumatic conditions of athletes	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	2	3	3	3	2
			CO5	3	2	2	2	2	2	2	3	3	2
Course 3.4	MPT 234	Medical aspects of sports medicine	CO1	3	3	3	3	3	3	3	2	3	2

			CO2	2	2	2	2	2	2	2	2	2	3
			CO3	2	2	2	2	2	2	2	2	2	3
			CO4	3	2	2	3	3	2	3	3	3	2
			CO5	3	2	3	3	2	3	2	3	3	2
Course 3.4	MPT 235	Sports physiotherapy methods	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2
Course 3.5	MPT 236	Current concepts in sports medicine	CO1	2	3	2	3	3	3	3	3	3	3
			CO2	2	2	3	2	3	3	2	3	3	3
			CO3	2	2	3	2	3	3	3	3	3	2
			CO4	2	2	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Practical														
Course 4.1	MPT 205	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.2	MPT 206	Dissertation	CO1	3	3	3	3	3	3	3	3	3	3

			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.3	MPT 239	Sports physiotherapy methods	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

Program Structure Template
School of Allied Health Sciences
MPT(Sports)
Batch: 2020-2022
TERM: I Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[3]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
	35395	**MPT 111**	Research Methodology and Evidence Based Practice					Core	CC
	35416	**MPT 112**	Basic Medical and Paraclinical Sciences					Core	CC

[3] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

3.	35417	**MPT 113**	Sports Biomechanics and Kinanthropometry					Core	CC
4.	35418	**MPT 114**	Assessment and Evaluation in Sports Physiotherapy					Core	SEC
5.	35419	**MPT 115**	Basic and Applied Exercise Physiology					Core	DSC
Practical/Viva-Voce/Jury									
6.	35420	**MPT 116**	Seminars, Journal Club and Clinical Case Presentation					Core	DSC
7.	35421	**MPT 117**	Assessment and Evaluation in Sports Physiotherapy					Core	SEC
8.	35398	**MPT 108**	Clinical Training					Co-requisite	SEC
TOTAL CREDITS									

Program Structure Template
School of Allied Health Sciences
MPT(Sports)
Batch: 2020-2022
TERM: II Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[4]: 1. CC 2. AECC 3. SEC
				L	T	P			

[4] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

									4. DSE
THEORY SUBJECTS									
9.	35422	**MPT 231**	Sports psychology					Core	DSC
10.	35423	**MPT 232**	Pedagogy and ethics in physiotherapy					Core	DSC
11.	35424	**MPT 233**	Traumatic and non traumatic conditions of athletes					Core	CC
12.	35425	**MPT 234**	Medical aspects of sports medicine					Core	CC
13.	35426	**MPT 235**	Sports physiotherapy methods					Core	DSC
14.	35427	**MPT 236**	Current concepts in sports medicine					Core	DSC
Practical/Viva-Voce/Jury									
15.	7939	**MPT 205**	Journal Club and Clinical Case Presentation					Core	DSC
16.	7940	**MPT 206**	Dissertation					Core	DSC
17.		**MPT 239**	Sports physiotherapy methods					Core	DSC
18.	35407	**MPT 230**	Clinical Training					Co-requisite	DSC
TOTAL CREDITS									

C. Course Templates

2.1 Template A1: Syllabus for Theory Subjects (SAMPLE)

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 111	
2	Course Title	Research Methodology and Evidence Based Practice	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To explain the basic concepts, terms and definitions used in health research. 2. To understand various types of research and formulate a research question, hypothesis and related objectives. 3. To understand the concepts of Biostatistics and its use in Physiotherapy research and select best sampling method for the chosen design and estimate sample size · 4. Carry out simple analysis of collected data and interpret findings appropriately ·	
6	Course Outcomes	The student will be able to: CO1. Understand the basic concepts, terms and definitions used in health research methodology CO2. To acquire the skills of reviewing literature, formulate a hypothesis, collecting data, writing research proposal. CO3. Describe the importance and use of Biostatistics for research work. CO4: To identify different scales of measurement used in research CO5: To read published research critically and to know how to publish a paper	
7	Course Description	This course is designed to develop the basic knowledge of research, biostatistics which can be used to understand its special needs in relation to interventions in physiotherapy . The course will provide a comprehensive introduction to research proposal writing, research methodologies, and foundational research theories and protocols	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Research in physiotherapy – Introduction, Research for Physiotherapist: Why? How? And When?, Research – Definition, concept, purpose, approaches, Internet sites for Physiotherapist	CO1, CO2

	B	Research Fundamentals, Define measurement, Measurement framework, Scales of measurement, Pilot Study, Types of variables, Reliability & Validity, Drawing Tables, graphs, master chart etc	CO1, CO2,CO4
	C	Writing a Research Proposal, Critiquing a research article, Defining a problem	CO1, CO2,CO5
	Unit 2		
	A	Review of Literature, formulating a question, Operational Definition, Inclusion & Exclusion criteria, Forming groups, Data collection & analysis, Results, Interpretation, conclusion, discussion, Informed Consent, Limitations	CO1, CO2
	B	Research Design- Principle of Designing, Design, instrumentation & analysis for qualitative research, Design, instrumentation & analysis for quantitative research Design, instrumentation & analysis for quasi-experimental research, Design models utilized in Physiotherapy	CO1, CO2,CO3,CO4
	C	Research Ethics- Importance of Ethics in Research, Main ethical issues in human subjects' research,Main ethical principles that govern research with human subjects Components of an ethically valid informed consent for research	CO1, CO2
	Unit 3		
	A	Biostatistics- Introduction, Definition, Types, Application in Physiotherapy; Data –Definition, Types, Presentation, Collection methods	CO1, CO3,CO4
	B	Measures of central value- Arithmetic mean, median, mode. Relationship between them, Partitioned values- Quatertiles, Deciles, Percentiles, Graphical	CO1, CO3,CO4

		determination	
	C	Measures of Dispersion- Range, Mean Deviation, Standard Deviation, Normal Distribution Curve, Properties of normal distribution, Standard normal distribution,Transformation of normal random variables. Inverse transformation, Normal approximation of Bioaxial distribution.	CO1, CO2,CO3,CO4
	Unit 4		
	A	Correlation analysis- Bivariate distribution: Scatter Diagram, Coefficient of correlation, Calculation & interpretation of correlational coefficient, T-test, Z-test, P-value; Regression analysis- Lines of regression, Calculation of Regression coefficient	CO1, CO3,CO4
	B	Sampling- Methods of Sampling, Sampling distribution, Standard error, Types I & II error, Probability (in Brief),Hypothesis Testing, Null Hypothesis, Alternative hypothesis, Acceptance & rejection of null Hypothesis, Level of significance	CO1, CO3,CO4
	C	Parametric & non parametric tests- Chi square test, Mann-Whitney U test, Wilcoxon Signed test, Kruskal-Wallis test, Friednam test, T-test/student T test, Analysis of variance	CO1, CO3,CO4
	Unit 5		
	A	Evidence–based health care, evidence–based practices	CO1, CO2
	B	evidence–based decision making and management	CO1, CO2
	C	Types of evidence - Definition of evidence, Forms of evidence, Randomized controlled trials, Case–control studies, Cohort studies	CO1, CO2
	Mode of examination	Theory	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	1. Recent Methods for Clinical Therapists: applied Project Design and analysis by Carolyn Hicks 2. Elements of Research in Physical Therapy: Dean P.	

		Currier 3. Physical therapy Research: Principles and Applications- Elizabeth Domholdt 4. Research Methology: Kothari, C.P. 5. Methods in Biostatistics: Mahajan B.K. 6. Martin Dawes, Philip Davies, and Alistair Gray, Evidence–Based Practice: A Primer for Health Care Professionals. Elsevier Publication	
	Other References	1. Albert R. Roberts and Kenneth R. Yeager, Evidence–Based Practice Manual: Research and Outcome Measures in Health and Human Services, Oxford University Press 2. Allen Rubin, Practitioner's Guide to Using Research for Evidence–Based Practice. John Willey & Sons Publication	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	2	2	3	2
CO3	2	2	3	3	3	3	3	3	3	3
CO4	2	1	2	2	2	3	2	2	1	3
CO5	1	2	2	2	2	3	3	1	2	3

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 112	
2	Course Title	**Basic Medical and Paraclinical Sciences**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide a detailed introduction on basic general anatomy, structure and function of the bones and nerves 2. To educate the students about the concept of various physiological systems of the body 3. To encourage the students to understand the concepts of Pharmacology and Pathophysiology of certain diseases 4. To educate and train the students about the concepts of Radiology and its application	
6	Course Outcomes	The student will be able to: CO1: Knowledge on basic anatomy, structure and function of the musculoskeletal system. CO2: Better understanding of physiology of various systems of the body that allows humans to engage in physical activity. CO3: Knowledge about basic concepts of Pharmacology and its use CO4: To understand the pathophysiology of certain diseases CO5: To understand the concepts of Radiology and its application in assessment process	
7	Course Description	This course is designed to enable the student to have a better understanding of the anatomy,physiology,pharmacology and radiology of the musculoskeletal system.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	**Anatomy of the Nerve Injuries:** Anatomical and Physiological loss resulting from nerve injury, Relaxation of nerves,Peripheral nerve entrapment	CO1
	B	**Anatomical Angles and stiff joints:** Anatomical Angles, Optimal attitude for stiff joints, Snapping joints	CO1
	C	**The pathology of bones in terms of anatomy:** Anatomical facts regarding bones,. Anatomical	CO1

		disturbances in various bone pathologies	
	Unit 2	**Applied General Physiology**	
	A	**Blood :** The various components of blood, Viscosity correlation,Oxyhemoglobin Dissociation curves,Interrelationship between pressure flow and resistance, Pressure volume curves, Stress relaxation of vessels	CO2
	B	**Cardiovascular system:** Physical characteristics of systemic circulation, Pressure pulses,. Oxygen demand theory of local blood flow circulation, Nervous control of blood circulation,. Humorous control of blood circulation, Mechanisms of arterial pulse regulation,	CO2
	C	Hypertension, Cardiac output and its regulation,Methods of measuring cardiac output,Normal coronary blood flow along with variations,Physiological basis of ischemic heart disease,. The cardiac reserve, Physiological causes of shock	CO2
	Unit 3	**Physiological Systems**	CO2
	A	**Respiratory System:** Review of mechanics of respiration, Pulmonary volumes and capacities,Transport of oxygen in blood, Carbon dioxide in blood, Regulation of respiration,Methods of studying respiratory abnormalities	CO2
	B	**Endocrine System:**Pituitary hormones and their functions,Thyroid hormones,. Adrenocortical hormones,Insulin Glucagon hormones,Parathyroid hormones	CO2
	C	**Pathology:** Inflammation and repair,"Failed" healing responses, Regional considerations of Inflammation & repair of soft tissue injuries.,Pathophysiology of certain diseases: Infections of the hand, lesions of supraspinatous, subdeltoid bursae and bicipital tendinitis, low back pain, sciatica, lesions of inter–vertebral disk	CO4
	Unit 4	**Pharmacology**	
	A	Principles of drug action	CO3
	B	Basic pharmacokinetics and Pharmacodynamics	CO3
	C	The use of drugs in various musculoskeletal disorders.	CO3
	Unit 5	**Radiology**	

	A	Basics of radiology including ultrasonography CT & MRI scanning			CO5
	B	Imaging of the head and neck, spine, upper limb (shoulder, elbow, wrist)			CO5
	C	Imaging of pelvis, hip and thigh, Patello Femoral Joint & Knee joint, lower leg, foot and ankle.			CO5
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Synopsis of Surgical Anatomy – John Wright & Sons, Bristol 2. Gray's Anatomy– Williams & Warwick – Churchill Livingstone. 3. Grants – Methods of Anatomy – Basmajian & Sloncker – Williams & Wilkins. 4. Clinical Anatomy for Medical Students – Snells – Lippincott. 5. Textbook of Medical Physiology – Guyton – Mosby. 6. Pathologic Basis of Diseases – Robbins, Kotran and Kumar – W.B. Saunders. 7. The Pharmacological basis of Therapeutics – Goodman and Gilman – MacMillan. 8. Pharmacology and Pharmacotherapeutics – Satoskar & Bhandarkar – Popular Publications – Bombay. 9. Pathology implications for Physical Therapists – Goodmann & Boissonnault– W. B. Saunders. 10. Davidsons – Principles and Practice of Medicine– Edward – Churchill Livingstone. 11. Hutchinsons – Clinical Methods of Medicine –Swash – Bailliere Tindall. 12. Systems of Orthopedics – Apleys – Butterworth Heinmann. 13. Outline of Orthopedics – Adams – Churchill Livingstone. 14. Outline of Fractures – Adams – Churchill Livingstone. 15. Tureks – Orthopedics – Weinsteil & Buckwalter – Lippincott Publications. 16. Text Book of Radiology – Sutton D. – Churchill Livingstone.			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	2	3	3	3	2
CO2	3	2	3	2	3	3	3	3	1	2
CO3	2	2	3	2	2	2	3	2	2	3
CO4	2	2	3	3	3	2	2	3	2	2
CO5	2	2	3	3	3	3	2	3	2	1

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 113	
2	Course Title	**Sports Biomechanics and Kinanthropometry**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate the students about the concepts of Biomechanics and their use in Physiotherapy 2.To educate the students about mechanics of musculoskeletal System 3. To develop understanding about the concept of Kinanthropometry 4. To develop understanding about the methods of Somatotyping	
6	Course Outcomes	CO1. The students will learn about kinetics and its use in Physiotherapy CO2. The students will learn about kinematics and its use in Physiotherapy CO3. The students will understand the mechanics of various joints in body CO4. The students will understand the concept of Kinanthropometry CO5: The students will understand the methods of Somatotyping	
7	Course Description	The course is designed to enable the students to have knowledge and understanding about role of biomechanics and Kinanthropometry in Sports.	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to Kinematics**	
	A	Definition, aims, objectives and role of Kinesiology in sports physiotherapy.	CO1,CO2
	B	Review of fundamental concepts (applied aspect), Centre of gravity, Line of gravity, Planes, Lever system in Body, Fundamental starting positions.	CO1,CO2
	C	Review of linear and angular kinematics	CO1,CO2
	Unit 2	**Mechanics of Musculoskeletal System**	

	A	Tissue loads, response of tissues to forces- Stress, Strain, Stiffness and mechanical strength, visco elasticity	CO1,CO2
	B	Physical Properties of bone, cartilage, tendon and ligaments, functional adaptation under pathological conditions.	CO1,CO2
	C	Impaired neuromuscular control, muscular force regulation in Frame work and joints of the body: Influence of trauma and classification of the muscles, Relation of structure, functions, role of muscles, types of Muscle, contractions (Static, Concentric and Eccentric), Two joint Muscles, Angle of pull, Role of Gravity affecting muscular action.	CO1,CO2
	Unit 3	**Biomechanics of Joints**	
	A	a) Nature and importance of Biomechanics in Physiotherapy, Principle of Biomechanics	CO1,CO2,CO3
	B	Biomechanics of shoulder and shoulder complex, elbow complex, wrist and hand complex, pelvic, hip, knee, ankle & foot complex and spine	CO1,CO2,CO3
	C	Biomechanics in Sports: Biomechanics of running, rowing, throwing, swimming, jumping and cycling	CO1,CO2,CO3
	Unit 4	**Kinanthropometry**	
	A	Introduction and significance of kinanthropometric knowledge in sports medicine,Age determination: Skeletal age, dental age	CO4
	B	Body measurements: Gross size and mass, lengths or heights of body parts, circumferences of body parts, skinfold thickness,Planes and axes of the body, landmarks on the body, Body mass index, phantom stratagem, Z – scores, O – scale system	CO4
	C	Body composition : Different Body composition, various methods to estimate body composition including water displacement method, under water weighing methods Kinanthropometric determination of the body composition (skinfold thickness), Bioelectrical impedance analysis, Ultrasound assessment of fat, Arm X–ray assessment of fat, Computed tomography (CT) assessment of fat.	CO4
	Unit 5	**Somatotyping**	
	A	a. Sheldon's method of somatotyping	CO5
	B	Heath – Carter method of somatotyping: The rating scales, Kinanthropometric measurements, First,	CO5

		Second and Third Components, Somatotyping, Somatotype distribution			
	C	Growth, maturation and physical performance			CO5
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. James G. Hay – The Biomechanics of Sports Techniques, Prentice Hall. 2. Brunnstrom – Clinical Kinesiology, F.A. Davis. 3. Luttgens K., Hamilton N.: Kinesiology – Scientific Basis of Human Motion, 9th Ed., 1997, Brown & Benchmark. 4. Kreighbaum E., Barthels K.: Biomechanics – A Qualitative approach for studying Human Motion, 2nd Ed. 1985, MacMillan. 5. Rasch and Burk: Kinesiology and Applied Anatomy, Lee and Fabiger. 6. White and Punjabi – Biomechanics of Spine – Lippincott. 7. Norkin & Levangie: Joint Structure and Function – A Comprehensive Analysis – F.A. Davis. 8. Kapandji: Physiology of Joints Vol. I, II & III, W.B. Saunders. 9. Northrip et. Al.: Analysis of Sports Motion: Anatomic and Biomechanics Perspectives, W.C. Brown Co., IOWA. 10. Leveac B.F.: Basic Biomechanics in Sports and Orthopedic Therapy, C.V. Mosby. 11. De Boer & Groot: Biomechanics of Sports, CRL Press, Florida. 12. Basmajian – Muscle alive – Williams & Wilkins. 13. Nordin & Frankel – Basic Biomechanics of Muscular Skeletal Systm – Williams & Wilkins. 14. Bartlet – Introduction to Sports Biomechanics – F & FN Spon Madras. Singh and Malhotra: Kinanthropometry, Lunar Publications 15. H.S. Sodhi: Sports Anthropometry (A Kinanthropometric Approach), Anova Publications 16. Verma and Mokha: Nutrition, Exercise and Weight Reduction, Exercise Science Publication Society 17. Ostym, Beunen and Simons: Kinanthropometry II, University Park Press, Baltimore			

		18. James A.P. Day: Perspectives in Kinanthropometry, Human Kinetics Publishers, Inc. Champaign, Illinois 19. L.S. Sidhu et. al: Sports Sciences – Health, Fitness and Performance, IASSPE 20. L.S. Sidhu et. al: Trends in Sports Sciences, IASSPE	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	2	3	3	3	2	2	2	3
CO2	3	2	2	3	3	3	2	2	2	3
CO3	3	2	3	3	3	3	2	2	2	2
CO4	2	2	3	3	2	3	2	2	1	2
CO5	1	1	2	3	2	2	3	2	3	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 114	
2	Course Title	**Assessment and evaluation in Sports Physiotherapy(Theory)**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide the knowledge and skills about musculoskeletal system assessment and evaluation of patients with sports injuries 2. To provide skills to develop clinical decision making for musculoskeletal conditions in sports. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6	Course Outcomes	CO1. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Orthopaedic conditions in sports. This will help form base of professional practice with the evidence based practice and enables the student to have a better understanding of the subject along with their application in Orthopaedic and various other dysfunctions in sports.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Importance of assessment & evaluation	CO1,CO2
	B	Methods of evaluation – Interview, Clinical Examination	CO1,CO2,CO3,CO4
	C	Reliability & Validity of the tests	CO1,CO3,
	Unit 2	Musculoskeletal screening	
	A	Musculoskeletal screening	CO1,CO2
	B	Evaluation of Physical Fitness	CO1,CO3,CO5
	C	. Investigative Procedures, Field Tests	CO1,CO4
	Unit 3	Assessment of upper and lower limb complex	

	A	Shoulder girdle, shoulder, arm, Elbow			CO1,CO2,CO3,CO4
	B	Forearm, wrist and hand.			CO1,CO2,CO3,CO4
	C	Pelvis, hip,thigh, knee, leg, ankle and foot			CO1,CO2,CO3,CO4
	Unit 4	Assessment of spinal column			
	A	Cervical spine			CO1,CO2,CO3,CO4
	B	Thoracic and lumbosacral spine			CO1,CO2,CO3,CO4
	C	Tests of neural tension.			CO1,CO5
	Unit 5	Gait Assessment			
	A	Assessment of Gait deviations			CO1,CO2,CO3,CO4,CO5
	B	EMG evaluation			CO1,CO5
	C	Diagnostic and kinesiological EMG			CO1,CO5
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1.Norkin & White: Measurement of Joint Motion – A Guide to Goniometry – F.A. Davis. 2. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders. 3. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders. 4. Lillegard, Butcher & Rucker: Handbook of Sports Medicine: A symptom – Oriented Approach, Butterworth & Heinemann 5. Baker: The Hughston Clinic Sports Medicine Book, Williams & Wilkins.			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	3	3
CO2	2	3	2	3	2	3	2	2	3	2
CO3	2	2	3	3	2	3	2	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 115	
2	Course Title	**Basic and applied exercise physiology**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide a detailed introduction on basic and applied exercise physiology 2. To educate the students about the role of nutrition in sports 3. To provide knowledge about energy systems and energy transfer in body. 4. To educate the students about the exercise prescription for different age groups and specific conditions	
6	Course Outcomes	The student will be able to: CO1:Knowledge on basic and applied exercise physiology CO2:Better understanding of role of nutrition in sports to engage in \ physical activity. CO3:Knowledge about various energy systems and its transfer in body. CO4: To understand the concept of exercise prescription for different age groups and specific conditions CO5: Develop understanding about conditions affecting athletic performance	
7	Course Description	This course is designed to develop knowledge and clinical application of exercise physiology in sports. It also enables the student to have a better understanding of the role of nutrition, and other applied methods to enhance athletic performance.	
8	Outline syllabus		CO Mapping
	Unit 1	**Nutrition**	
	A	Carbohydrates, Fats, Proteins, Vitamins, Minerals and Water	CO1,CO2
	B	Optimal Nutrition for exercise, Nutrition for Physical Performance, Pre–Game meal, Carbohydrate loading.	CO1,CO2
	C	Alcohol, Mega Vitamin Therapy, Food for various athletes of different disciplines, Fluid and energy	CO1,CO2

	Unit 2	**Energy Transfer for Physical Activity**	
	A	Energy transfer in Body, Energy transfer in exercise, Energy expenditure during various activities, Fatigue,	CO1,CO2,CO3, CO4
	B	Cardio Vascular System and Exercise: Athletes Heart, Cardio Vascular adaptations to sustained aerobic exercises, Lipids and sports, protection from coronary heart disease, exercise and optimization of lipid profile, Sudden cardiac death in sports, Regulation of circulation during exercise.	CO1,CO2,CO3
	C	Exercise and Respiratory System: Air Conditioning, Second Wind, Oxygen Debt, Breathe Holding, High Pressure Ventilation. Scuba Diving, Athletes Lung, Regulation of Respiration during exercise.	CO1,CO2,CO3
	Unit 3	**Exercise Physiology in various body systems**	
	A	Skeletal System: Growth and Exercise, Repair and adaptation during exercise, Exercise prescription for chronic low back pain, Training for Muscular Strength and Endurance	CO1,CO4
	B	Gastrointestinal Tract: Effect of Sports on GIT and Liver Hormone	CO1
	C	Endocrine system: regulation of fluid and electrolytes during exercise, Exercise and Menstrual Cycle, Stress	CO1,CO4
	Unit 4	**Exercise prescription**	
	A	Body Composition: Composition of Human Body, Somatotyping, Techniques of Body Composition Analysis.	CO1
	B	Aging and Exercise: . Aging and Physiological function, Exercise and Longevity, Coronary Heart Disease and	CO1,CO4
	C	Exercise, Exercise Stress Testing for Diagnosis of CHD.	CO1,CO4
	Unit 5	**Miscellaneous conditions**	
	A	Temperature Regulation: Heat Balance, Methods of Assessing Heat Balance, Effects of Climate, Effects of Exercise on Temperature Regulation, Limit of Tolerance of Heat, Acclimatisation, Avoidance in Heat illness during exercise, Exercises in cold.	CO1,CO5
	B	Misc. Topics: High Altitude Training, Sports	CO1,CO5

<table>
<tr><td></td><td></td><td colspan="3">Diving, Hazards of underwater environment
Special Aids to Athletic Performance:– MORA, Oxygen Inhalation, Sleep, Sex and performance, Assessment of Age, Muscle tissue fibre typing and its significance, Exercise for mood enhancement & anxiety.</td><td></td></tr>
<tr><td></td><td>C</td><td colspan="3">. Physiological Basis and Principles of Training and Conditioning
i. Principles of endurance and strength training : Recovery training intensities in heart rate,
Manipulation of training principles, Training sub–phases
ii. Fundamentals that aid training and performance: Warm up and Cool down, Flexibility and stretching, Missing workouts, Overtraining
iii. Analysis of Training</td><td>CO1,CO5</td></tr>
<tr><td></td><td>Mode of examination</td><td colspan="3">Theory</td><td></td></tr>
<tr><td rowspan="2"></td><td rowspan="2">Weightage Distribution</td><td>CA</td><td></td><td>ETE</td><td></td></tr>
<tr><td>20%</td><td></td><td>80%</td><td></td></tr>
<tr><td></td><td>Text book/s*</td><td colspan="3">Mc Ardle, Katch, Katch: Exercise Physiology Edition IV.
2. Era Volinski: Nutrition and exercise in Sports – CRC Press, New York.
3. George A. Brooks, Thomas D. Fahey: Exercise Physiology – Human Bioenergetics and its applications 1984, John Wiley & Sons, New York.
4. Astrand & Rodahl: Text Book of Work Physiology, McGraw Hill.
5. Fox and Mathews – The Physiological Basis of Physical Education and Athletics – Holt Saunders.
6. Erston and Reilly – Kinanthropometry and Exercise Physiology Laboratory Manual</td><td></td></tr>
<tr><td></td><td>Other References</td><td colspan="3"></td><td></td></tr>
</table>

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	3	3	3	3	2
CO2	2	2	2	3	3	3	3	3	3	3
CO3	3	2	2	3	3	2	3	3	3	2
CO4	3	2	3	3	3	2	2	3	3	2
CO5	3	2	2	2	3	3	2	3	2	3

School: SAHS		Batch : 2020-22	
Program: MPT(Sports)		Current Academic Year: 2020-21	
Branch:		I Year	
1	Course Code	MPT 117	
2	Course Title	**Assessment and evaluation in Sports Physiotherapy(Practical)**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide the knowledge and skills about musculoskeletal system assessment and evaluation of patients with sports injuries 2. To provide skills to develop clinical decision making for musculoskeletal conditions in sports. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6	Course Outcomes	CO1. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Orthopaedic conditions in sports. This will help form base of professional practice with the evidence based practice and enables the student to have a better understanding of the subject along with their application in Orthopaedic and various other dysfunctions in sports.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Importance of assessment & evaluation	CO1,CO2
	B	Demonstration of methods of evaluation – Interview, Clinical Examination	CO1,CO2,CO3,CO4
	C	Reliability & Validity of the tests	CO1,CO3,
	Unit 2	Musculoskeletal screening	
	A	Musculoskeletal screening	CO1,CO2
	B	Methods of Evaluation of Physical Fitness	CO1,CO3,CO5
	C	Demonstration of Investigative Procedures, Field Tests	CO1,CO4

	Unit 3	Assessment of upper and lower limb complex			
	A	Assessment -Shoulder girdle, shoulder, arm, Elbow			CO1,CO2,CO3,CO4
	B	Assessment -Forearm, wrist and hand.			CO1,CO2,CO3,CO4
	C	Assessment -Pelvis, hip,thigh, knee, leg, ankle and foot			CO1,CO2,CO3,CO4
	Unit 4	Assessment of spinal column			
	A	Assessment -Cervical spine			CO1,CO2,CO3,CO4
	B	Assessment -Thoracic and lumbosacral spine			CO1,CO2,CO3,CO4
	C	Tests of neural tension.			CO1,CO5
	Unit 5	Gait Assessment			
	A	Assessment of Gait deviations			CO1,CO2,CO3,CO4,CO5
	B	Demonstration of EMG evaluation			CO1,CO5
	C	Demonstration Diagnostic and kinesiological EMG			CO1,CO5
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1.Norkin & White: Measurement of Joint Motion – A Guide to Goniometry – F.A. Davis. 2. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders. 3. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders. 4. Lillegard, Butcher & Rucker: Handbook of Sports Medicine: A symptom – Oriented Approach, Butterworth & Heinemann 5. Baker: The Hughston Clinic Sports Medicine Book, Williams & Wilkins.			
	Other References				

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		Batch : 2020-22			
Program: MPT(Sports)		Current Academic Year: 2020-21			
Branch:		I Year			
1	Course Code	MPT 116			
2	Course Title	Seminars,Journal Club and Clinical Case Presentation			
3	Credits				
4	Contact Hours (L-T-P)				
	Course Type	Compulsory			
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.			
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3

CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 231	
2	Course Title	**Sports Psychology**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge and application sports psychology to improve performance of players. 2. To educate the student about methods to improve attention and perception in sports 3. To provide knowledge regarding psychological preparation of athletes. 4.To educate about earn various techniques to relieve anxiety and stress among players.	
6	Course Outcomes	The student will be able to CO1. Learn about application of sports psychology to improve performance of players in various sports. CO2. Use methods to improve attention and perception in sports CO3: Apply techniques for psychological preparation of athletes CO4: Apply techniques for relieving anxiety and stress among players. CO5: Apply sports psychology methods to maintain emotional health among players.	
7	Course Description	This course presents knowledge and application in sports psychology to improve performance of players.The course allows the sports therapist to improve attention and perception in sports and to prepare the player psychologically for sporting event. The course will help to learn various techniques to relieve anxiety and stress among players.	
:8	Outline syllabus		CO Mapping
	Unit 1	**Attention and Perception in Sports**	
	A	History and current status of Sports Psychology, Personality Assessment and Sports Personality: Theories of personality, Personality assessment,. Attention and Perception in Sports: Attention and Perception	CO1,CO2
	B	Concentration Training in Sports: Basic principles of concentration, Concentration training, Concentration awareness exercises	CO1,CO2

	C	Motivational Orientation in Sports: Athlete's needs of motivation, Motivational inhibitors Motivational techniques	CO1,CO2
	Unit 2	**Anxiety in Sports**	
	A	Pre–competitive Anxiety: Source of PCA, Effect of PCA on performance, Relaxation Training: Definition, types of relaxation trainings i) Progressive muscle relaxation ii) Breathing exercises iii) Yognidra iv)Transcendental meditation	CO1,CO4
	B	Aggression in Sports: Theories of aggression, Management of aggression, Role of Psychology in Dealing with Injuries.	CO1,CO4
	C	Eating Disorders: Etiology of eating disorders, Types of eating disorders, Complications of eating disorders, Goal setting.	CO1,CO4
	Unit 3	**Psychological Preparation**	
	A	Psychological aspect of doping	CO1,CO3
	B	Psychological preparation of elite athletes : Concept of psychological preparation	CO1,CO3
	C	Biofeedback training, Mental imagery	CO1,CO3
	Unit 4	**Group behaviour and stress management**	
	A	Stress management : Principles of Stress Management, Stress Management techniques	CO1,CO2,CO4,CO5
	B	Group Behaviour and Leadership: Nature of group behaviour and group,	CO1,CO2,CO4,CO5
	C	Types of group, Educational implication of group behaviour.	CO1,CO2,CO4,CO5
	Unit 5	**Emotional Health**	
	A	Meaning of leadership: types of leadership quality of leadership, training and functioning of leadership.	CO1,CO5
	B	Emotion: Meaning of emotion, Characteristics of emotion, Meaning of controlling and training of emotions and its importance	CO1,CO5
	C	Contribution of sports to emotional health,	CO1,CO5

		Meaning of sentiment, its type, importance and formation.			
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20		80	100
	Text book/s*	1. Morgan and King: Introduction to Psychology – Tata McGraw Hill. 2. Suinn: Psychology in Sports: Methods and Applications, Surjeet Publications. 3. Grafiti: Psychology in Contemporary Sports, Prentice Hall. 4. Basmajian: Biofeedback. 5. Sanjiv P. Sahni: Handbook of Sports Psychology – A Comprehensive Manual of Mental Training.			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	3	3	3	3	3	3	3	3
CO2	2	2	2	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	2	2	2	3	3	3	3	3	3	3
CO5	2	2	2	3	3	3	3	3	3	3

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 232	
2	Course Title	**Pedagogy and ethics in Physiotherapy**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate the students about the concepts of teaching and learning. 2. To enable them to learn about the philosophies of education. 3. To provide knowledge about curriculum, techniques, and methods of teaching. 4. To provide knowledge about the management,marketing and total quality process and its functions. 5. To educate the students about the role of hospital, rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists.	
6	Course Outcomes	CO1. Understand the dynamics, methods & techniques of teaching and learning. CO2. Plan effective teaching sessions in Physiotherapy and learn about the meaning and concept, basis of curriculum formulation and the use of various teaching aids CO3. Understand the basic issues of management and administration. CO4. Practice as an informed professional on legal and ethical issues in Physiotherapy. CO5:To understand the importance of hospital and how it works in different departments.	
7	Course Description	This course presents knowledge and application of different teaching methodology to the students. The course begins with core topics of Concepts of Teaching and learning, Curriculum, various teaching methods and concept of guidance and counselling etc. It also focuses on Administration, Management & Ethical Issues in Physiotherapy**.**	
:8	Outline syllabus		CO Mapping
	Unit 1	**Education**	
	A	Education:Introduction, Educational Philosophy- Idealism Naturalism,Pragmatism Aims of Education, Functions of Education, Formal,informal and	CO1

		non-formal Education,	
	B	Agencies of Education, Current issues and Trends in Higher Education	CO1
	C	Issue of quality in Higher Education, Autonomy and Accountability, Privatization of Education	CO1
	Unit 2		
	A	a) Concept of Teaching and Learning, Meaning and scope of Educational Psychology.	CO1,CO2
	B	Meaning and Relationship between teaching and learning, Learning Theories, Dynamics of behavior, Individual differences	CO1,CO2
	C	Curriculum: - Meaning and concept, Basis of curriculum formulation, framing objectives for curriculum, Process of curriculum development and factors involved, Evaluation of curriculum	CO1,CO2,CO3
	Unit 3		
	A	Method and techniques of teaching: - Lecture, Demonstration, Discussion, Seminar, Assignment, Project, Case Study, Planning for teaching: - Bloom's taxonomy of instructional objectives, Writing instructional objectives in behavioral terms, Unit planning, Lesson planning, Teaching aids, Types of teaching aids, Principles of selection, preparation and use of audio-visual aids	CO1,CO2,CO3
	B	Measurement and Evaluation, Nature of educational measurement: meaning, process,types of tests, Construction of an achievement test and its analysis, Standardized test, Introduction of some standardized tools, important tests of intelligence, aptitude, and personality. Continuous and comprehensive	CO1,CO2,CO3

		evaluation	
	C	Guidance and counseling, Meaning & concepts of guidance and counseling, Principles of guidance and counseling, Awareness programme, Awareness and guidance to the common people about health and disease.	CO1,CO2,CO3
	Unit 4	**Administration, Management & Ethical Issues**	
	A	Management: Introduction, Evolution of management, Functions of management, Management process – planning, organization, direction, controlling, Decision-making.	CO4,CO5
	B	Personnel management: Staffing, Recruitment selection, Performance appraisal, Collective bargaining, Job satisfaction, Marketing: Market segmentation, Channels of distribution, Promotion, Consumer behaviour	CO4,CO5
	C	Total Quality Management: Basics of quality management, Quality control, Quality assurance programme in hospitals & medical audit, International quality system.	CO4,CO5
	Unit 5	**Administration, Legal Ethical Issues**	
	A	Hospital as an organization - Functions and types of hospitals, Roles of Physical therapist, Physical therapy Director, Physiotherapy supervisor, Physiotherapy assistant, Physiotherapy aide, Home health aide, Volunteer.	CO4,CO5
	B	Rules of Professional Conduct. Legal responsibility, Code of ethics, Functions of Physiotherapy associations, Role of the International Health Agencies, Standards of practice for physiotherapists	CO4,CO5
	C	Liability and obligations in the case of medical	CO4,CO5

		legal action, law of disability & discrimination, Confidentially of the Patient's status, Consumer protection law, health law, MCI, DCP			
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20		80	100
	Text book/s*	1. Developing a Pedagogy of Teacher education: Understanding teaching and learning about teaching. 2. Handbook of Technological pedagogical content knowledge, (TPCK) for educators 3. Healthcare System and management: Goel, S.L. 4. Documenting physical therapy: Baeten, Angla 5. Physical Therapy Administration & Management by Hickik Robert J 6. Management Principles for physiotherapists by Nosse Lorry J. 7. Textbook of Healthcare ethics: Loeuy, Erich H			
	Other References				

Pos COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	1	2	2	2	2	3	3	1	1	2
CO2	1	1	1	2	2	3	2	1	2	2
CO3	1	1	1	2	2	3	2	1	2	2
CO4	1	1	1	2	3	3	2	1	2	2
CO5	1	1	1	2	3	3	2	1	2	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 233	
2	Course Title	**Traumatic and non traumatic conditions of athletes**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge regarding causes & mechanism of sports injuries and their prevention. 2. To educate students about overuse injuries in sports. 3. To educate students about sports emergencies & specific injuries in sports 4.To teach students about infections and specfic conditions in sports	
6	Course Outcomes	CO1. Understand about causes & mechanism of sports injuries and methods of their prevention. CO2. Understand about causes & mechanism of overuse injuries in sports affecting various joints of body CO3.Learn methods and techniques to manage sports emergencies & specific injuries in sports CO4: Understand about various infections in sports CO5: Understand about specific conditions in sports	
7	Course Description	This course is designed to develop and enhance the knowledge about various sports injuries and emergencies. The course will enable the student to apply various methods to manage the injuries	
8	Outline syllabus		CO Mapping
	Unit 1	**Sports Injuries**	
	A	Pre–participation examination	CO1
	B	Causes & Mechanism of Sports Injuries, prevention of sports injuries	CO1,CO2
	C	Common acute and overuse injuries of Shoulder girdle, Shoulder, Arm, Elbow, Forearm, Wrist & hand	CO1,CO2
	Unit 2	**Overuse injuries in Sports**	
	A	Common acute and overuse injuries of Pelvis, hip, thigh, knee, leg, ankle & foot	CO1,CO2
	B	Common acute and overuse injuries of Spine	CO1, CO2

	C	Common acute and overuse injuries of Head	CO1, CO2
	Unit 3	**Sports emergencies & specific injuries in sports**	
	A	Sporting emergencies & first aid	CO1, CO2, CO3
	B	Cardio pulmonary Resuscitation; Shock management, Internal and External bleeding, Splinting, Stretcher use–Handling and transfer, Management of Cardiac arrest, Acute asthma, epilepsy, drowning, burn, Medical management of mass participation. Heat stroke and Heat illness.	CO1, CO2 CO3
	C	Sports specific injuries, with special emphasis on the specific risk factor, nature of sports, kind of medical intervention anticipated and prevention with respect to individual sports i. Individual events: Track & Field ii. Team events: Hockey, Cricket, Football etc. iii. Contact and Non–contact sports iv.Water Sports	CO1, CO2, CO3
	Unit 4	**Infections in Sports**	
	A	Illness, Infections, Hypertension, Urine abnormalities; Venereal Diseases; Exercise induced Asthma; Anemia, Delayed Onset Muscle Soreness (DOMS), Runner's high & exercise addiction. G.I.T. Diseases, Exercises and congestive heart failure, exercise for post coronary & byepass patients, exercise for diabetics.	CO1, CO4
	B	Diagnosis and management of skin conditions of Athletes	CO1, CO4
	C	Bacterial infections, Fungal infections, Viral infections, boils and cellulitis.	CO1,CO4
	Unit 5	**Specfic conditions in Sports**	
	A	Female Specific Problems: Sports Amenorrhoea, Injury to female reproductive tract, Menstrual Synchrony, sex determination, Exercise and pregnancy, Eating disorders in athletes.	CO1, CO5
	B	Common Diseases: Common Cold, Diarrhoea, Dysentery, Typhoid, Cholera, Amoebiasis, Food Poisoning, Tuberculosis, Malaria, Hepatitis etc, AIDS in sports people.	CO1, CO5
	C	Rheumatology & Geriatric Disorder: Rheumatoid arthritis, SLE and Juvenile Rheumatoid Arthritis, Ankylosing Spondylitis, Rheumatology out patient clinic, Osteoarthrosis and other geriatric conditions.	CO1, CO5

	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Morris B. Mellion: Office Sports Medicine, Hanley & Belfus. 2. Richard B. Birrer: Sports Medicine for the Primary Care Physician, CRC Press. 3. Torg, Welsh & Shephard: Current Therapy in Sports Medicine III – Mosby. 4. Zulunga et al: Sports Physiotherapy, W.B. Saunders. 5. Brukner and Khan: Clinical Sports Medicine, McGraw Hill. 6. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders. 7. Gould: Orthopedic Sports Physical Therapy, Mosby. 8. C. Norris: Sports Injuries – Diagnosis and Management for Physiotherapists, Heinmann. 9. D. Kulund: The Injured Athlete, Lippincott. 10. Nicholas Hershman: Vol. I, The Upper Extremity in Sports Medicine. Vol. II, The Lower Extremity and Spine in Sports Medicine. Vol. III, The Lower Extremity and Spine in Sports Medicine. Mosby. 11. Lee & Dress: Orthopedic Sports Medicine – W.B Saunders. 12. K. Park: Preventive and Social Medicine – Banarsi Dass Bhanot – Jabalpur. 13. Fu and Stone: Sports Injuries: Mechanism, Prevention and Treatment, Williams and Wilkins. 14. Scuderi, McCann, Bruno: Sports Medicine – Principles of Primary Care, Mosby. 15. Lars Peterson and Per Renstron: Sports Injuries – Their prevention and treatment, Dunitz.		
	Other References				

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2

CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	3	3	3	3	3	2	3	3	3	2
CO5	3	2	2	2	2	2	2	3	3	2

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 234	
2	Course Title	**Medical aspects of sports medicine**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1.To educate students about role of exercise in specific conditions 2. To provide knowledge about doping in sports 3. To educate students about exercise as a method of diabetes control 4. To educate students about role of exercise indifferent age groups and specific conditions	
6	Course Outcomes	CO1. Understand about role of exercise in specific conditions CO2. Understand about doping in sports CO3. To use exercise as a method of diabetes control CO4: To understand the role of exercise in different age groups CO5: To understand the role of exercise in miscellaneous conditions	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various musculoskeletal disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1	**Exercise in specific conditions**	
	A	a) Exercise and Common Pulmonary Conditions : Exercise induced bronchial obstruction, Exercise in chronic airway obstruction, Air pollution and exercise	CO1
	B	Exercise and Cardiac Conditions : Exercise prescription for heart disease, Exercise in primary prevention in ischemic heart disease	CO1
	C	Exercise for secondary prevention of ischemic heart disease	CO1
	Unit 2	**Exercise and diabetes**	
	A	Doping in Sports: Banned drugs, Procedure of dope testing, Control of doping abuse	CO1,CO2
	B	Diabetes and Exercise: Exercise in diabetic	CO1, CO3

		patients			
	C	Exercise as a method of control of diabetes			CO1, CO3
	Unit 3	**Exercise for special categories**			
	A	Exercises for special categories: Child and adolescent athlete's problems			CO1, CO4
	B	Exercises for special categories: Special problems of older athletes			CO1,CO4
	C	Exercises for special categories: Special concerns for handicapped athletes			CO1,CO4
	Unit 4	**Miscellaneous conditions-I**			
	A	Hazards of cold water			CO1, CO5
	B	Exercise for mood enhancement			CO1, CO5
	C	Vitamins and exercise			CO1, CO5
	Unit 5	**Miscellaneous conditions-II**			
	A	Spinal deformity and sports			CO1, CO5
	B	Time zone shift and sleep deprivation problems			CO1, CO5
	C	Exercise in pregnancy and post partum			CO1, CO5
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Morris B. Mellion: Office Sports Medicine, Hanley & Belfus. 2. Richard B. Birrer: Sports Medicine for the Primary Care Physician, CRC Press. 3. Torg, Welsh & Shephard: Current Therapy in Sports Medicine III – Mosby. 4. Zuluaga et al: Sports Physiotherapy, W.B. Saunders. 5. Brukner and Khan: Clinical Sports Medicine, McGraw Hill. 6. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders. 7. Gould: Orthopedic Sports Physical Therapy, Mosby. 8. C. Norris: Sports Injuries – Diagnosis and Management for Physiotherapists, Heinmann. 9. D. Kulund: The Injured Athlete, Lippincott. 10. Nicholas Hershman: Vol. I, The Upper Extremity in Sports Medicine. Vol. II, The Lower			

		Extremity and Spine in Sports Medicine. Vol. III, The Lower Extremity and Spine in Sports Medicine. Mosby. 11. Lee & Dress: Orthopedic Sports Medicine – W.B Saunders. 12. K. Park: Preventive and Social Medicine – Banarsi Dass Bhanot – Jabalpur. 13. Fu and Stone: Sports Injuries: Mechanism, Prevention and Treatment, Williams and Wilkins. 14. Scuderi, McCann, Bruno: Sports Medicine – Principles of Primary Care, Mosby. 15. Lars Peterson and Per Renstron: Sports Injuries – Their prevention and treatment, Dunitz.	
	Other References		

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	2	2	2	2	2	2	2	2	2	3
CO3	2	2	2	2	2	2	2	2	2	3
CO4	3	2	2	3	3	2	3	3	3	2
CO5	3	2	3	3	2	3	2	3	3	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT235	
2	Course Title	**Sports physiotherapy methods(Theory)**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1.To provide knowledge about rehabilitation and Therapeutic Exercises 2. To educate about effects and uses of therapeutic exercises. 3. To develop skills in mobilization and strengthening Techniques 4. To provide neuromuscular training and use of various techniques in sports	
6	Course Outcomes	CO1. To learn about rehabilitation and Therapeutic Exercises CO2. To know about effects and uses of therapeutic exercises.. CO3: To use techniques of mobilization and strengthening for rehabiltation CO4: Enable the students to apply knowledge of neuromuscular training in players CO5: Enable the students use various techniques in sports for rehabilitation of injuries	
7	Course Description	The course will enable the students to gain knowledge of rehabilitation and therapeutic exercises in various sports injuries.This will help them to formulate and design physiotherapy treatment program following sports injuries.	
8	Outline syllabus		CO Mapping
	Unit 1	**Rehabilitation and Therapeutic Exercises**	
	A	Define Rehabilitation, Goals and Objectives of Rehabilitation in Sports, Clinical Evaluation phases of rehabilitation. (multidisciplinary approach)	CO1,CO2,
	B	Prehabilitation, Modern concepts in rehabilitation	CO1,CO2
	C	Factors affecting the joint range of motion prevention of stiffness, methods of joint mobilization, Testing for tightness and contracture of soft–tissue structures,. Techniques of mobilizing the various joints of the body.	CO1,CO2
	Unit 2	**Definition, details of effects and uses of therapeutic exercises.**	
	A	Dynamic Exercises, Plyometric Exercises	CO1,CO2,

	B	Isokinetic Exercises, Kinetic chain exercises	CO1, CO2
	C	Manipulative Techniques	CO1, CO2
	Unit 3	**Mobilization and Strengthening Techniques**	
	A	Types of Muscle Contractions and Muscle work, Strength of Muscle Contraction in terms of Motor units, Group action of muscles and its implication in designing an exercise program.	CO1, CO2, CO3
	B	Causes of muscle weakness. Prevention of disuse atrophy, Principles of treatment to increase muscle strength and function, Techniques of strengthening with respect to regional consideration.	CO1, CO2, CO3
	C	Various methods of progressive resisted exercise, Aquatic therapy in sports.	CO1, CO2 CO3
	Unit 4	**Neuromuscular Training in sports**	
	A	Neuromuscular Training: Neuromuscular control, methods for improving neuromuscular control, proprioception and Kinesthetic sensation following different sport injuries.	CO1, CO2, CO4
	B	Principles and application of neuromuscular facilitation techniques including PNF in sports.	CO1, CO2, CO4
	C	Health club & fitness: Concept, group therapy	CO1, CO2, CO4
	Unit 5	**Techniques in sports**	
	A	Functional Bandages & Orthotic Aids: History and uses of functional bandages, classification according to the time of application, types of bandages, Bandaging techniques and bandaging material, Indications, contraindications athletic shoes and modifications, common orthotic aid and appliances in Sports.	CO1, CO2, CO5
	B	Manual Therapy: Introduction to manual therapy techniques, joint techniques, manual joint therapy, traction, basic principles of manipulation for various disorders of the spine and extremities. Muscle energy techniques(MET)-definition, elements of MET procedures, clinical utilization of MET.	CO1, CO2, CO5
	C	Recent Advancement in Electrotherapy, Electrodiagnosis and its implications to Sports Physiotherapy, Cryotherapy: Physiological effects, Use of cold therapy in acute phase, rehabilitative	CO1, CO2, CO5

		phase, preventive phase of athletic injury, Methods of application, Indications and contraindications.		
	Mode of examination	Theory		
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Sinha A.G.: Principle and Practices of Therapeutic Massage – Jaypee Brothers, New Delhi 2. Gardiner M. Dena: The Principles of Exercise Therapy – CBS Publishers, Delhi. 3. Kisner and Colby: Therapeutic Exercises – Foundations and Techniques, F.A. Davis. 4. Basmajian John V.: Therapeutic Exercise, Williams & Wilkins. 5. Thomson et al –Tidy's Physiotherapy: Butterworth – Heinmann. 6. Wood & Baker: Beard's Massage, W.B. Saunders. 7. Kendall: Muscles – Testing and Function – Williams & Wilkins 8. Daniels and Worthinghams: Muscle Testing – Techniques of Manual Examination, W.B. Saunders. 9. First Aid to Injured: St. John's Ambulance Association. 10. William E. Prentice: Rehabilitation Techniques – Mosby. 11. Werner Kuprian: Physical Therapy for Sports, W.B. Saunders. 12. Norkin & White: Measurement of Joint Motion – A Guide to Goniometry – F.A. Davis. 13. Andrea Bates and Norm Hanson: Aquatic Exercise Therapy, W.B. Saunders. 14. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders. 15. Hartley: Practical Joint Assessment, A Sports Medicine Manual, upper and lower quadrants, C.V. Mosby. 16. Kennedy: Mosby's Sports Therapy Taping Guide. 17. Malone: Orthopeadic and Sports Physical Therapy, C.V. Mosby. 18. Albert: Eccentric Muscle Training in Sports and Orthopeadics, W.B. Saunders. 19. Voss et al – Proprioceptive Neuromuscular Facilitation – Patterns & Techniques –		

		Williams & Wilkins.	
	Other References		

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT239	
2	Course Title	**Sports physiotherapy methods(Practical)**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1.To provide knowledge about rehabilitation and Therapeutic Exercises 2. To educate about effects and uses of therapeutic exercises. 3. To develop skills in mobilization and strengthening Techniques 4. To provide neuromuscular training and use of various techniques in sports	
6	Course Outcomes	CO1. To learn about rehabilitation and Therapeutic Exercises CO2. To know about effects and uses of therapeutic exercises.. CO3: To use techniques of mobilization and strengthening for rehabiltation CO4: Enable the students to apply knowledge of neuromuscular training in players CO5: Enable the students use various techniques in sports for rehabilitation of injuries	
7	Course Description	The course will enable the students to gain knowledge about techniques of rehabilitation and therapeutic exercises in various sports injurie.This will help them to formulate and design physiotherapy treatment program following sports injuries.	
8	Outline syllabus		CO Mapping
	Unit 1	**Rehabilitation and Therapeutic Exercises**	
	A	Define Rehabilitation, Goals and Objectives of Rehabilitation in Sports, Clinical Evaluation phases of rehabilitation. (multidisciplinary approach)	CO1,CO2,
	B	Prehabilitation, Modern concepts in rehabilitation	CO1,CO2
	C	Factors affecting the joint range of motion prevention	CO1,CO2

		of stiffness, methods of joint mobilization, Testing for tightness and contracture of soft–tissue structures,. Techniques of mobilizing the various joints of the body.	
	Unit 2	**Definition, details of effects and uses of therapeutic exercises.**	
	A	Dynamic Exercises, Plyometric Exercises	CO1,CO2,
	B	Isokinetic Exercises, Kinetic chain exercises	CO1, CO2
	C	Manipulative Techniques	CO1, CO2
	Unit 3	**Mobilization and Strengthening Techniques**	
	A	Types of Muscle Contractions and Muscle work, Strength of Muscle Contraction in terms of Motor units, Group action of muscles and its implication in designing an exercise program.	CO1, CO2, CO3
	B	Causes of muscle weakness. Prevention of disuse atrophy, Principles of treatment to increase muscle strength and function, Techniques of strengthening with respect to regional consideration.	CO1, CO2, CO3
	C	Various methods of progressive resisted exercise, Aquatic therapy in sports.	CO1, CO2 CO3
	Unit 4	**Neuromuscular Training in sports**	
	A	Neuromuscular Training: Neuromuscular control, methods for improving neuromuscular control, proprioception and Kinesthetic sensation following different sport injuries.	CO1, CO2, CO4
	B	Principles and application of neuromuscular facilitation techniques including PNF in sports.	CO1, CO2, CO4
	C	Health club & fitness: Concept, group therapy	CO1, CO2, CO4
	Unit 5	**Techniques in sports**	
	A	Functional Bandages & Orthotic Aids: History and uses of functional bandages, classification according to the time of application, types of bandages, Bandaging techniques and bandaging material, Indications, contraindications athletic shoes and modifications, common orthotic aid and appliances in Sports.	CO1, CO2, CO5
	B	Manual Therapy: Introduction to manual therapy techniques, joint techniques, manual joint therapy, traction, basic principles of manipulation for various	CO1, CO2, CO5

		disorders of the spine and extremities. Muscle energy techniques(MET)-definition, elements of MET procedures, clinical utilization of MET.		
	C	Recent Advancement in Electrotherapy, Electrodiagnosis and its implications to Sports Physiotherapy, Cryotherapy: Physiological effects, Use of cold therapy in acute phase, rehabilitative phase, preventive phase of athletic injury, Methods of application, Indications and contraindications.		CO1, CO2, CO5
	Mode of examination	Theory		
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Sinha A.G.: Principle and Practices of Therapeutic Massage – Jaypee Brothers, New Delhi 2. Gardiner M. Dena: The Principles of Exercise Therapy – CBS Publishers, Delhi. 3. Kisner and Colby: Therapeutic Exercises – Foundations and Techniques, F.A. Davis. 4. Basmajian John V.: Therapeutic Exercise, Williams & Wilkins. 5. Thomson et al –Tidy's Physiotherapy: Butterworth – Heinmann. 6. Wood & Baker: Beard's Massage, W.B. Saunders. 7. Kendall: Muscles – Testing and Function – Williams & Wilkins 8. Daniels and Worthinghams: Muscle Testing – Techniques of Manual Examination, W.B. Saunders. 9. First Aid to Injured: St. John's Ambulance Association. 10. William E. Prentice: Rehabilitation Techniques – Mosby. 11. Werner Kuprian: Physical Therapy for Sports, W.B. Saunders. 12. Norkin & White: Measurement of Joint Motion – A Guide to Goniometry – F.A. Davis. 13. Andrea Bates and Norm Hanson: Aquatic Exercise Therapy, W.B. Saunders. 14. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders. 15. Hartley: Practical Joint Assessment, A Sports Medicine Manual, upper and lower		

		quadrants, C.V. Mosby. 16. Kennedy: Mosby's Sports Therapy Taping Guide. 17. Malone: Orthopeadic and Sports Physical Therapy, C.V. Mosby. 18. Albert: Eccentric Muscle Training in Sports and Orthopeadics, W.B. Saunders. 19. Voss et al – Proprioceptive Neuromuscular Facilitation – Patterns & Techniques – Williams & Wilkins.	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

School: SAHS		**Batch : 2020-22**	
Program: MPT(Sports)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 236	
2	Course Title	**Current concepts in sports medicine**	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about Segmental Stabilization Concepts of Spine 2. To provide knowledge about Physical activity in youth 3. To provide training about Precision heart rate training 4. To provide knowledge about Current concepts in sports	
6	Course Outcomes	CO1. Understand about the Concepts of Segmental Stabilization of Spine CO2. To plan exercise program for young individuals. CO3: Provide the Precision heart rate training to players and sedentary individuals CO4: Enable the students to apply the role of exercise in obesity CO5: Enable the students to gain knowledge about current concepts in sports	
7	Course Description	The course will enable the students to gain knowledge about the role of exercise in managing various conditios. It will also allow them to learn about segmental stabilization of spine and the use of current concepts in sports	
8	Outline syllabus		CO Mapping
	Unit 1	**Segmental Stabilization Concepts of Spine**	
	A	Muscle function in spinal stabilization	CO1
	B	Contribution of various muscles to spinal stabilization, Local Muscle dysfunction in Low back pain	CO1

	C	Principles of clinical management of deep muscle system for segmental stabilization		CO1
	Unit 2	**Physical activity in youth**		
	A	Emergency Medical Planning and cover for Sports Events		CO2
	B	Exercise for growing bones		CO2
	C	Effect of Physical activity intervention in youth		CO2
	Unit 3	**Precision heart rate training**		
	A	Heart rate monitoring and training , Training in heart zones		CO3
	B	Precision heart rate training for specific sports		CO3
	C	Multi Activity training, Monitoring of training effects		CO3
	Unit 4	**Current concepts in obesity management**		
	A	Childhood obesity etiology and role of exercise		CO4
	B	Obesity correlation with lipidogram		CO4
	C	Intra–abdominal obesity hazards, Management of obesity		CO4
	Unit 5	**Current concepts in sports**		
	A	Electromyography and Rehabilitation : Principles of EMG Rehab, Muscular tone, fatigue and neural influences, EMG in the evaluation of Sports Trauma		CO5
	B	Current concepts in comprehensive physical examination for the instabilities of knee.		CO5
	C	Current concepts in tendinopathies, Current concepts in plasma rich platelet therapy in sports		CO5
	Mode of examination	Theory		
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Mallarkey: Managing Obesity, Adis Publications 2. Burke: Precision Heart rate training, Human Kinetics 3. Jull: Segmental Stabilization of Spine		

		4. Mishra: Clinical Neurophysiology, B.I. Churchill Livingstone.	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	3	2	3	3	3	3	3	3	3
CO2	2	2	3	2	3	3	2	3	3	3
CO3	2	2	3	2	3	3	3	3	3	2
CO4	2	2	2	3	3	2	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2

School: SAHS		**Batch : 2020-22**			
Program: MPT(Sports)		**Current Academic Year: 2021-22**			
Branch:		**II Year**			
1	Course Code	MPT 205			
2	Course Title	Journal Club and Clinical Case Presentation			
3	Credits				
4	Contact Hours (L-T-P)				
	Course Type	Compulsory			
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.			
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

School: SAHS		**Batch : 2020-22**
Program: MPT(Sports)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Code	MPT 206
2	Course Title	Dissertation
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Practical
5	Course Objective	The objective of the course is that, the student will be able to 1. Apply the evidences for the search of new knowledge. 2. To develop efficient research methodology. 3. To improve the scientific literature writing.
6	Course Outcomes	After completion of the course, the students will be able to; CO1:Gain knowledge about formulation of research protocol CO2:Apply research Methodology and skills to complete the research dissertation

		CO3:Develop the skill to publish and present the research CO4: Methods of scientific literature review and writing. CO5:Evidence based implementation of various research protocols.		
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.		
	Mode of examination	Practical		
	Weightage Distribution	CA	ETE	
		20%	80%	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

Program Structure Template

School of Allied Health Sciences
Master of Physiotherapy
(Cardiopulmonary)

Batch – (2020-22)

Program Code – SAH0112

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

1. **Transformative educational experience**
2. **Enrichment by educational initiatives that encourage global outlook**
3. **Develop research, support disruptive innovations and accelerate entrepreneurship**
4. **Seeking beyond boundaries**

Core Values

- **Integrity**
- **Leadership**
- **Diversity**
- **Community**

Note: Detailed Mission Statements of University can be used for developing Mission Statements of Schools/ Departments.

Vision of the School

To produce skilled man power in different areas of biomedical science for better healthcare delivery

Mission of the School

1. **To strengthen the main line medical and health services.**
2. **To become effective assisting and support system to medical and health personnel.**

Core Values

1. **Skilled professional**
2. **Multidimensional**
3. **Compassion**
4. **Management**

1.3 Programme Educational Objectives (PEO)

PEO1: To gain knowledge of the human body related basic medical and physiotherapeutic sciences relevant to cardiopulmonary conditions.

PEO 2: To acquire the knowledge of movement dysfunction of human body and evidence based Physiotherapeutic management for the same.

PEO 3: To develop skills in cardiopulmonaryphysiotherapy assessment by relevant And current physiotherapeutic concepts.

PEO4: To plan and implement appropriate Physiotherapeutic interventions for cardiopulmonaryconditions in acute and chronic phases, critical care, indoor and outdoor institutional care and independent practice.

PEO 5: To develop skills as a self-directed learner, recognize continuous education needs, select and use appropriate learning resources.

PEO 6: To develop ability to undertake research and teach undergraduate physiotherapy students.

1.3.2 Map PEOs with Mission Statements:

PEO Statements	School Mission 1	School Mission 2
PEO1:	**3**	**3**
PEO2:	**2**	**3**
PEO3:	**3**	**3**
PEO4:	**3**	**3**
PEO5:	**3**	**3**
PEO6:	**2**	**2**

1. Slight (Low) 2. Moderate (Medium) 3. Substantial (High)

1.3.3 Program Outcomes (PO's)

PO1**. Physiotherapy Knowledge:** The students will be able to possess knowledge and Comprehension of the basic medicine and physiotherapeutic sciences relevant to cardiopulmonary conditions..

PO2. **Understanding**: Students will be able to understand the core concepts in Physiotherapy Techniques.

PO3. **Thinking ability:** Students will be able to develop the skills forcardiopulmonary conditions assessment in order to identify, examine and distinguish between the same.

PO4. **Application:** Students will be able to demonstrate and apply the technical skills to integrate the core areas of physiotherapy practice.

PO5. **Planning:** Students will be able to design and formulate the treatment plan to address to the needs of patients safely and with appropriate regard to professional and ethical guidelines.

PO6. **Research:** Students will be able to formulate and test a hypothesis.

PO7.**Communication:**Graduates will have good leadership qualities and entrepreneur skills by working and communicating effectively in interdisciplinary environment, either independently or with a team.

Program Specific Outcomes (PSo's):

PSO1:Students will be able to assess and design a treatment plan for patients with cardiopulmonary conditions.

PSO2:Students will be able to identify, select and apply advanced physiotherapy techniques for treatment purpose**.**

PSO3:Students will be able to design and formulate research which will be beneficial for the advancement in higher studies.

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

	PEO1	PEO2	PEO3	PEO4	PEO5	PEO6
PO1	3	3	3	3	3	3
PO2	3	3	3	3	3	3
PO3	3	3	3	3	3	3
PO4	3	3	3	3	3	3
PO5	3	3	3	3	3	3
PO6	3	3	3	3	3	3
PO7	3	3	3	3	3	3
PSO1	3	3	3	3	3	3
PSO2	3	3	3	3	3	3
PSO3	3	3	3	3	3	3

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

1.3.5 Program Outcome Vs Courses Mapping Table[1]:

Program Outcome Courses	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
1st Year											
Course 1.1	Research Methodology and Evidence Based Practice	2	2	2	2	2	3	2	2	2	3
Course 1.2	Basic Sciences and Biomechanics	3	3	2	2	2	2	2	2	2	2
Course 1.3	Physiotherapy Assessment and Clinical Decision Making (Theory)	3	3	3	3	2	2	3	3	2	3
Course 1.4	Advanced Physiotherapeutics(Theory)	3	3	3	3	3	2	3	2	3	3
Course 1.5	Physiotherapy Assessment and Clinical Decision Making (Practical)	3	3	3	3	2	2	3	3	2	3
Course 1.6	Advanced Physiotherapeutics(Practical)	3	3	3	3	3	2	3	2	3	3
Course 1.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
2ND Year											
Course 2.1	Pedagogy in Physiotherapy Education	2	2	2	2	1	2	3	2	2	2
Course 2.2	Administration, Management and Ethical Issues	1	1	2	2	2	3	3	2	2	3

[1] Cel value will contain the correlation value of respective course with PO.

Course 2.3	Cardiopulmonary Physiotherapy I (Medical) Theory	3	3	2	2	3	2	3	2	3	3
Course 2.4	Cardiopulmonary Physiotherapy II (Surgical) Theory	3	3	2	2	3	2	3	2	2	2
Course 2.5	Cardiopulmonary Physiotherapy I (Medical) Practical	3	3	2	2	3	2	3	2	3	3
Course 2.6	Cardiopulmonary Physiotherapy II (Surgical) Practical	3	3	2	2	3	2	3	2	2	2
Course 2.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
Course 2.8	Dissertation	3	3	3	3	3	3	3	3	3	3

1.3.5.2COURSE ARTICULATION MATRIX[2]

Program Outcome Courses	Course code	Course Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO2	PSO3
Year-1													
Theory													
Course 1.1	MPT 111	Research Methodology and Evidence Based Practice	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	2	3	3	3	3	3	2	2	3	2
			CO3	2	2	3	3	3	3	3	3	3	3
			CO4	2	1	2	2	2	3	2	2	1	3
			CO5	1	2	2	2	2	3	3	1	2	3
Course 1.2	MPT 102	Basic Sciences and Biomechanics	CO1	3	3	3	3	3	2	3	3	3	2
			CO2	3	3	3	2	3	3	3	3	2	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	2	3	3	3	2	2	3	2	2
			CO5	2	3	2	3	3	2	2	3	2	1
Course 1.3	MPT 103	Physiotherapy assessment and clinical decision making (Theory)	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Course 1.4	MPT 104	Advanced	CO1	3	3	3	3	3	3	3	2	3	2

[2] Each course outcome (Based on Blooms Taxanomy-CO1, CO2, CO3, CO4, CO5, and CO6) of the course needs to map with PO. This table evolves once faculty has mapped each course outcomes of their respective course with PO's.

		Physiotherapeutics											
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	2	3	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
Practical													
Course 2.1	MPT 107	Advanced Physiotherapeutics	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	2	3	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
Course 2.2	MPT 106	Physiotherapy assessment and clinical decision making	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Course 2.3	MPT 105	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Year 2													
Theory													
Course 3.1	MPT 221	Pedagogy in Physiotherapy Education	CO1	2	3	3	3	3	2	2	2	3	2
			CO2	3	3	3	3	3	2	2	3	3	3
			CO3	1	1	2	2	2	1	3	1	1	2
			CO4	1	1	2	2	2	1	3	1	1	2

			CO5	1	1	2	2	2	1	3	1	1	2
Course 3.2	MPT 202	Administration, Management and Ethical Issues	CO1	3	3	3	3	2	2	3	2	3	3
			CO2	3	3	3	2	3	3	3	3	3	3
			CO3	2	2	3	2	2	2	3	2	1	2
			CO4	2	2	3	2	2	2	3	2	1	3
			CO5	2	2	3	2	2	2	3	2	1	3
Course 3.3	MPT 213	Cardiopulmonary Physiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 3.4	MPT 214	Cardiopulmonary Physiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2
Practical													
Course 4.1	MPT 205	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.2	MPT 206	Dissertation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3

			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.3	MPT 215	Cardiopulmonary Physiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 4.4	MPT 216	Cardiopulmonary Physiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

Program Structure Template

School of Allied Health Sciences
MPT(Cardiopulmonary)
Batch: 2020-2022
TERM: I Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[3]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
	35395	MPT 111	Research Methodology and Evidence Based Practice					Core	CC
	7926	MPT 102	Basic Sciences and Biomechanics					Core	CC
3.	7928	MPT 103	Physiotherapy Assessment and Clinical Decision Making					Core	CC
4.	7929	MPT 104	Advanced Physiotherapeutics					Core	SEC
Practical/Viva-Voce/Jury									
5.	7930	MPT 105	Journal Club and Clinical Case Presentation					Core	DSC
6.	35396	MPT 106	Physiotherapy Assessment and Clinical Decision Making					Core	SEC
7.	35397	MPT 107	Advanced Physiotherapeutics					Core	SEC
8.	35398	MPT 108	Clinical Training					Co-requisite	SEC

[3] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

TOTAL CREDITS			

Program Structure Template
School of Allied Health Sciences
MPT(Cardiopulmonary)
Batch: 2020-2022
TERM: II Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[4]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
8.	35399	MPT 221	Pedagogy in Physiotherapy Education					Core	CC
9.	35400	MPT 202	Administration, Management and Ethical Issues					Core	DSC
10.	35408	MPT 213	Cardiopulmonary Physiotherapy I (Medical)					Core	CC
11.	35409	MPT 214	Cardiopulmonary Physiotherapy II (Surgical)					Core	CC
Practical/Viva-Voce/Jury									
12.	35410	MPT 215	Cardiopulmonary Physiotherapy I (Medical)					Core	DSC
13.	35411	MPT 216	Cardiopulmonary Physiotherapy II (Surgical)					Core	DSC

[4] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

14.	7939	MPT 205	Journal Club and Clinical case Presentation					Core	DSC
15.	7940	MPT 206	Dissertation					Core	DSC
16.	35407	MPT 230	Clinical Training					Co-requisite	SEC
TOTAL CREDITS									

C. Course Templates

2.1 Template A1: Syllabus for Theory Subjects (SAMPLE)

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 111	
2	Course Title	Research Methodology and Evidence Based Practice	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To explain the basic concepts, terms and definitions used in health research. 2. To understand various types of research and formulate a research question, hypothesis and related objectives. 3. To understand the concepts of Biostatistics and its use in Physiotherapy research and select best sampling method for the chosen design and estimate sample size · 4. Carry out simple analysis of collected data and interpret findings appropriately ·	
6	Course Outcomes	The student will be able to: CO1. Understand the basic concepts, terms and definitions used in health research methodology CO2. To acquire the skills of reviewing literature, formulate a hypothesis, collecting data, writing researchproposal. CO3. Describe the importance and use of Biostatistics for research work. CO4: To identify different scales of measurement used in research CO5: To read published research critically and to know how to publish a paper	
7	Course Description	This course is designed to develop the basic knowledge of research, biostatistics which can be used to understand its special needs in relation to interventions in physiotherapy .The coursewill provide a comprehensive introduction to research proposal writing, research methodologies, and foundational research theories and protocols	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Research in physiotherapy – Introduction, Research for Physiotherapist: Why? How? AndWhen?, Research – Definition,	CO1, CO2

		concept, purpose, approaches, Internet sites forPhysiotherapist	
	B	Research Fundamentals, Define measurement, Measurement framework, Scales of measurement, Pilot Study, Types of variables, Reliability & Validity, Drawing Tables, graphs, master chartetc	CO1, CO2,CO4
	C	Writing a Research Proposal, Critiquing a research article, Defining aproblem	CO1, CO2,CO5
	Unit 2		
	A	Review of Literature, formulating a question, Operational Definition, Inclusion & Exclusion criteria, Forming groups, Data collection & analysis, Results, Interpretation, conclusion, discussion, Informed Consent, Limitations	CO1, CO2
	B	Research Design- Principle of Designing, Design, instrumentation & analysis for qualitativeresearch, Design, instrumentation & analysis for quantitative research Design, instrumentation & analysis for quasi-experimental research, Design models utilized inPhysiotherapy	CO1,CO2,CO3,CO4
	C	Research Ethics- Importance of Ethics in Research, Main ethical issues in human subjects'research,Main ethical principles that govern research with human subjects Components of an ethically valid informed	CO1,CO2

		consent for research	
	Unit 3		
	A	Biostatistics- Introduction, Definition, Types, Application inPhysiotherapy; Data – Definition, Types, Presentation, Collectionmethods	CO1, CO3,CO4
	B	Measures of central value- Arithmetic mean, median, mode. Relationship between them, Partitioned values- Quatertiles, Deciles, Percentiles, Graphicaldetermination	CO1, CO3,CO4
	C	Measures of Dispersion- Range, Mean Deviation, StandardDeviation, Normal Distribution Curve, Properties of normal distribution, Standard normal distribution,Transformation of normal random variables. Inverse transformation, Normal approximation ofBioaxial distribution.	CO1,CO2,CO3,CO4
	Unit 4		
	A	Correlation analysis- Bivariate distribution: Scatter Diagram, Coefficient of correlation, Calculation & interpretation of correlational coefficient, T-test, Z-test,P-value; Regression analysis- Lines of regression, Calculation of Regressioncoefficient	CO1, CO3,CO4
	B	Sampling- Methods of Sampling, Sampling distribution, Standard error, Types I & IIerror, Probability (inBrief),Hypothesis Testing, Null Hypothesis, Alternative hypothesis, Acceptance & rejection of nullHypothesis, Level ofsignificance	CO1, CO3,CO4
	C	Parametric & non parametric tests-	CO1, CO3,CO4

		Chi square test, Mann-Whitney U test, Wilcoxon Signed test, Kruskal-Wallis test, Friednam test, T-test/student T test, Analysis ofvariance	
	Unit 5		
	A	Evidence–based health care, evidence–based practices	CO1, CO2
	B	evidence–based decision making and management	CO1, CO2
	C	Types of evidence - Definition of evidence, Forms of evidence, Randomized controlled trials, Case–control studies, Cohort studies	CO1, CO2
	Mode of examination	Theory	
	Weightage Distribution	CA | ETE 20% | 80%	
	Text book/s*	1. Recent Methods for Clinical Therapists: applied Project Design and analysis by Carolyn Hicks 2. Elements of Research in Physical Therapy: Dean P. Currier 3. Physical therapy Research: Principles and Applications- Elizabeth Domholdt 4. Research Methology: Kothari, C.P. 5. Methods in Biostatistics: Mahajan B.K. 6. Martin Dawes, Philip Davies, and Alistair Gray, Evidence–Based Practice: A Primer for Health Care Professionals. Elsevier Publication	
	Other References	1. Albert R. Roberts and Kenneth R. Yeager, Evidence– Based Practice Manual: Research and Outcome Measures in Health and Human Services, Oxford University Press 2. Allen Rubin, Practitioner's Guide to Using Research	

		for Evidence–Based Practice. John Willey & Sons Publication	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	2	2	3	2
CO3	2	2	3	3	3	3	3	3	3	3
CO4	2	1	2	2	2	3	2	2	1	3
CO5	1	2	2	2	2	3	3	1	2	3

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**
Branch:		**I Year**
1	Course Code	MPT 102
2	Course Title	Basic Sciences and Biomechanics
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1.To providea detailed introduction on basic anatomy, physiology, structure and function of the cardiopulmonary system. 2. To educate the students about the concept of cardiorespiratory mechanicsandits applications. 3. To encourage the students to apply the cardiopulmonary physiologyconcepts in training and Physiotherapy. 4. To educate the students about the concepts of Biomechanics and their use in Physiotherapy.

6	Course Outcomes	The student will be able to: CO1:Knowledge on basic anatomy,physiology, structure and function of the cardiopulmonary systems. CO2:Better understanding of cardio physiology of exercise and energy transfer that allows humans to engage in physical activity. CO3:Knowledge about basic concepts of biomechanics of cardiopulmonary structures with respect to physiotherapy CO4: To understand the physiological needs of training and conditioning**.** CO5: Assessment of biomechanical aspect of various dysfunctions	
7	Course Description	This course is designed to develop a anatomical knowledge and clinical application of Anatomy in Physiotherapy treatment.It also enables the student to have a better understanding of the principles of biomechanics and their application in cardiopulmonary-respiratory and various other dysfunctionsas well as knowledge of basic and applied cardio physiology	
8	Outline syllabus		CO Mapping
	Unit 1	Structure & function of the various components of cardiopulmonary system	
	A	Basic Science: Anatomy and physiology of cardio-vascular and respiratory systems,Biomechanics of respiration.	CO1
	B	Intrauterine development of cardiopulmonary system and difference between the adult and pediatric cardiopulmonary system.	CO1
	C	Epidemiology, Symptomatology and pathophysiology of the cardio-respiratory disorders.	CO1
	Unit 2	Basic Exercise Physiology	
	A	Introduction to exercisephysiology, Nutrition andPerformance	CO2
	B	Energytransfer, Measurement of human energyexpenditure	CO2
	C	Systems of energy delivery andutilization in	CO2

		Pulmonarysystem, Cardiovascularsystem, Musculoskeletal, NervousSystem and Endocrinesystem	
	Unit 3	Applied Exercise Physiology	CO2
	A	Aerobic powertraining, Anaerobic powertraining, Special aids in performance andconditioning	CO2
	B	Exercise at differentaltitudes, Exercise at various climaticconditions, Sport diving	CO2
	C	Obesity and weightcontrol, Exercise andaging, Clinical exercisephysiology	CO2
	Unit 4	Mechanics I	
	A	Biomechanics: Fundamental Mechanics**:** Forces, Moments, Newton's lows, Composition and resolution of forces, Static Equilibrium. Dynamic Equilibrium, Force system, Lever, Pulley systems, Density & Mass, Segmental dimensions Kinetics- Definition of forces, Force vectors, Naming of force, Force of gravity and Cog, Stability, Reaction force, Equilibrium, Linear force system, Friction and its various parameters, Parallel force system, Concurrent force system, Work power and energy, Moment arms of force, Force component, Equilibrium of force	CO3
	B	Fluid Mechanics **:** Various laws governing the flow of fluids, Various laws governing the volume of fluid, Various laws governing the pressure of fluid, Various laws governing the energy of fluid, Various parameters explaining the flow, Various parameters describing the fluid, Clinical applications. Muscles Mechanics- Structure & composition of muscles, Fiber length & cross section area, Mechanical propertied, EMG changes during fatigue & contraction, Changes in mechanical properties because of ageing and Exercise & Immobilization. Clinical applications	CO3
	C	Measurement Instrument : EMG Electro physiology of muscle contraction Recording processing relationship between EMG and Biomechanical variables. Mechanical Energy Work and Power : Definition,	CO3

		Positive and Negative work of muscle, Muscle of mechanical power, Causes of inefficient movement, Co-contraction, Isometric contraction, Energy generation at one joint and absorption at another, Energy flow, Energy storage	
	Unit 5	Mechanics II	
	A	Ergonomics Biomechanics in Cardiopulmonary Conditions :This course involves application of biomechanical principles to cardiopulmonary conditions.	CO3
	B	Orthosis & Prosthesis- Orthosis of spine, Prescriptions checkout & proper fitting, Bio-mechanical principles governing them, Aids used in management of disability	CO3
	C	Cardiopulmonary Mechanics- Biomechanics of Respiration, Cardiac Mechanics, Pulmonary, Mechanics, Rib Cage Movement	CO3
	Mode of examination	Theory	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	1. Clinical Bimechanics of the spine: White, Augustus 2. Exercise Physiology by Mc Ardle, Katch & Katch (Lippincott Williams and Wilkins, 3. Exercise Physiology:Exercise, Performance and clinical Applications by A Roberts 4. Clinical Anatomy for Medical Students 5. Textbook of Medical Physiology 6. Joint Structure and Function - A Comprehensive Analysis 7. Clinical kinesiology by Brunnstrom	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	3	3	3	2
CO2	3	3	3	2	3	3	3	3	2	3

CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	3	3	3	2	2	3	2	2
CO5	2	3	2	3	3	2	2	3	2	1

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**
Branch:		**I Year**
1	Course Code	MPT 103
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Theory)
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To provide the knowledge and skills about cardiopulmonary system assessment and evaluation of patients. 2. To provide skills to develop clinical decision making for cardiopulmonaryconditions. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.
6	Course Outcomes	CO1.Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in cardiopulmonary conditions. This will help form base of professional practice with the evidence based practice and enables the student to have a better understanding of the subject along with their application in cardiopulmonary condition and various other dysfunctions.
8	Outline syllabus	CO Mapping

	Unit 1	Cardiopulmonary assessment			
	A	Review of General assessment, Sensory assessment, Motor Control assessment, Muscle Length Testing, Postural assessment, Limb length measurement			CO1,CO2
	B	Range of Motion, Balance assessment, Coordination assessment, Clinical Gait assessment, Functional assessment, Environmental assessment			CO1,CO4
	C	Physical disability evaluation			CO1,CO2,CO3
	Unit 2				
	A	Respiratory muscle assessment, Clinical assessment			CO1,CO2
	B	Rationale of laboratory investigations and differential diagnosis			CO3
	C	Evaluation of respiratory dysfunctions, lung function tests – volumetric, analysis of blood gases, X-ray chest.			CO1,CO4
	Unit 3				
	A	Evaluation cardiac dysfunction. [ECG, exercise ECG testing, Holter monitoring etc., Echocardiogram, X-Ray, Imaging techniques etc.]			CO1,CO2,CO3
	B	Evaluation of peripheral vascular disorders: clinical, blood flow studies, temperature plethysmography			CO1,CO2,CO3
	C	A.N.S dysfunction testing.			CO1,CO2,CO3
	Unit 4				
	A	Intensive care assessment			CO1,CO3
	B	Risk factor assessment			CO1,CO3
	C	Pain management (neurobiology, various theories, modulation and management of pain)			CO2
	Unit 5				
	A	Preventive measures in cardio respiratory conditions			CO1,CO2
	B	Risk factor assessment			CO1
	C	Physical Disability evaluation in detail. ICFclassification			CO1,CO3
	Mode of examination				
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Cardiovascular and Pulmmonary Physical therapy: Evidence to practice --5th ed Doona Frown felter			

		2. Electrodiagnosis in disease of muscle: Kumara ,Jim 3. Physiotherapy for respiratory and cardiac problems : Adults And Pediatrics --3rd ed / 4th ed. Pryor, J A &Prasad, S Ammani	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	3	3
CO2	2	3	2	3	2	3	2	2	3	2
CO3	2	2	3	3	2	3	2	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**
Branch:		**I Year**
1	Course Code	MPT 106
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Practical)
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To provide the knowledge and skills about cardiopulmonary system assessment and evaluation of patients. 2. To provide skills to develop clinical decision making for cardiopulmonary conditions. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.

6	Course Outcomes	CO1.Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in cardiopulmonary conditions. This will help form base of professional practice with the evidence based practice and enables the student to have a better understanding of the subject along with their application in cardiopulmonary condition and various other dysfunctions.	
8	Outline syllabus		CO Mapping
	Unit 1	Cardiopulmonary assessment	
	A	Review of General assessment, Sensory assessment, Motor Control assessment, Muscle Length Testing, Postural assessment, Limb length measurement	CO1,CO2
	B	Demonstration of Range of Motion, Balance assessment, Coordination assessment, Clinical Gait assessment, Functional assessment, Environmental assessment	CO1,CO4
	C	Demonstartion of Physical disability evaluation	CO1,CO2,CO3
	Unit 2		
	A	Respiratory muscle assessment, Clinical assessment	CO1,CO2
	B	Overviewing Rationale of laboratory investigations and differential diagnosis	CO3
	C	Evaluation of respiratory dysfunctions, lung function tests – volumetric, analysis of blood gases, X-ray chest.	CO1,CO4
	Unit 3		
	A	Evaluation cardiac dysfunction. [ECG, exercise ECG testing, Holter monitoring etc., Echocardiogram, X-Ray, Imaging techniques etc.]	CO1,CO2,CO3
	B	Evaluation of peripheral vascular disorders:	CO1,CO2,CO3

		clinical, blood flow studies, temperature plethysmography			
	C	A.N.S dysfunction testing.			CO1,CO2,CO3
	Unit 4				
	A	Intensive care assessment			CO1,CO3
	B	Risk factor assessment			CO1,CO3
	C	Pain management (neurobiology, various theories, modulation and management of pain)			CO2
	Unit 5				
	A	Enculcate practically the preventive measures in cardio respiratory conditions			CO1,CO2
	B	Risk factor assessment			CO1
	C	Physical Disability evaluation in detail. ICFclassification			CO1,CO3
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Cardiovascular and Pulmmonary Physical therapy: Evidence to practice --5th ed Doona Frown felter 2. Electrodiagnosis in disease of muscle: Kumara ,Jim 3. Physiotherapy for respiratory and cardiac problems : Adults And Pediatrics --3rd ed / 4th ed. Pryor, J A &Prasad, S Ammani			
	Other References				

School: SAHS		**Batch : 2020-22**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**
Branch:		**I Year**
1	Course Code	MPT 104
2	Course Title	Advanced Physiotherapeutics (Theory)
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To provide knowledge about various techniques used in cardiopulmonaryPhysiotherapy.

		2. To analyse and classify various cardiorespiratory pulmonary conditions and their management. 3. Compare & contrast the outcome of various physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of cardiopulmonary conditions	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Intensive care unit – Concept and set-up, equipment for advanced methods of resuscitation, monitoring and patent management: artificial airways, ventilators, pulse –oximetry etc	CO1,CO2,CO3,CO4
	B	Cardio-pulmonary resuscitation	CO1,CO2,CO3
	C	Cardiac and Pulmonary Rehabilitation.	CO1,CO2,CO3
	Unit 2		
	A	Respiratory physiotherapy techniques – Techniques to improve lung volume; techniques to reduce the work of breathing and techniques to clear secretions,	CO1,CO2,CO3, CO4
	B	Body positioning, Airway Clearance Techniques, Postural Drainage, Forced Expiratory technique, Breathing Exercise, Percussion and vibration	CO1,CO2,CO3,CO4
	C	Respiratory Muscle training, Techniques for facilitating ventilator pattern	CO1,CO2,CO3,CO4
	Unit 3		
	A	Physiotherapy management for common conditions in the ICU, Humidification and Aerosol therapy, Oxygen therapy, PT in neonatal ICU, Respiratory therapy equipment and adjuncts to Cardiopulmonary therapy, Respiratory Pharmacology, Poisoning, Drug	CO2,CO3

		overdose, and Drowning	
	B	Applying and Evaluating Bronchial Hygiene therapy	CO2,CO3
	C	Exercise testing, planning and prescription: Aerobic and anaerobic exercise training. And Physiotherapy modalities used for wound healing, Bio feedback	CO2,CO3
	Unit 4		
	A	Principal and prescription of cardiac Rehabilitation & pulmonary Rehabilitation	CO2
	B	Exercise Prescription for health promotion and fitness for special populations- DM, Obesity, IHD, COPD, HTN	CO2,CO3
	C	C.B.R in Cardio-vascular and respiratory conditions,	CO2
	Unit 5		
	A	Prevention of Morbidity and Mortality with the use of physical aids	CO1,CO2,CO3
	B	Outcomes measure in pulmonary & cardiac Rehabilitation and Functional Adaptations	CO2,CO3
	C	Recent advances in Cardio respiratory physiotherapy	CO2,CO3
	Mode of examination	Theory	
	Weightage Distribution	CA / ETE	
		20% / 80%	
	Text book/s*	1. Egan's Fundamentals of Respiratory Care 2. Exercise prescription- ACSM 9th edition 3. Aerobic exercise prescription Harris/Brooks 4. Clinical Application of Mechanical Ventilation--3rd ed Chang, David	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	3	3	3	3

CO3	2	3	2	3	3	2	3	3	3	2
CO4	3	2	3	3	3	2	2	3	3	2

School: SAHS		**Batch : 2020-22**	
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 107	
2	Course Title	Advanced Physiotherapeutics (Practical)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1.To provide knowledge about various techniques used in cardiopulmonary Physiotherapy. 2. To analyse and classify various cardiorespiratory pulmonary conditions and their management. 3. Compare & contrast the outcome of various physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of cardiopulmonary conditions.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Demonstration of Intensive care unit – Concept and set-up, equipment for advanced methods of resuscitation, monitoring and patent management: artificial airways, ventilators, pulse –oximetry etc	CO1,CO2,CO3,CO4
	B	Demonstration of Cardio-pulmonary resuscitation	CO1,CO2,CO3
	C	Planning and application of Cardiac and Pulmonary Rehabilitation.	CO1,CO2,CO3

	Unit 2		
	A	Demonstration of Respiratory physiotherapy techniques – Techniques to improve lung volume; techniques to reduce the work of breathing and techniques to clear secretions,	CO1,CO2,CO3, CO4
	B	Demonstration of Body positioning, Airway Clearance Techniques, Postural Drainage, Forced Expiratory technique, Breathing Exercise, Percussion and vibration	CO1,CO2,CO3,CO4
	C	Respiratory Muscle training, Techniques for facilitating ventilator pattern	CO1,CO2,CO3,CO4
	Unit 3		
	A	Demonstration of Physiotherapy management for common conditions in the ICU, Humidification and Aerosol therapy, Oxygen therapy, PT in neonatal ICU, Respiratory therapy equipment and adjuncts to Cardiopulmonary therapy, Respiratory Pharmacology, Poisoning, Drug overdose, and Drowning	CO2,CO3
	B	Applying and Evaluating Bronchial Hygiene therapy	CO2,CO3
	C	Training of Exercise testing, planning and prescription: Aerobic and anaerobic exercise training. And Physiotherapy modalities used for wound healing, Bio feedback	CO2,CO3
	Unit 4		
	A	Demonstrate Principal and prescription of cardiac Rehabilitation & pulmonary Rehabilitation	CO2
	B	Giving Exercise Prescription for health promotion and fitness for special populations- DM, Obesity, IHD, COPD, HTN	CO2,CO3
	C	Performing C.B.R (Community based rehabilitation) in Cardio-vascular and respiratory conditions,	CO2
	Unit 5		

	A	Learn to prevent Morbidity and Mortality with the use of physical aids			CO1,CO2,CO3
	B	Measuring Outcomes measure in pulmonary & cardiac Rehabilitation and Functional Adaptations			CO2,CO3
	C	Learn to enculcate Recent advances in Cardio respiratory physiotherapy			CO2,CO3
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. 1.Egan's Fundamentals of Respiratory Care 2. Exercise prescription- ACSM 9th edition 3. Aerobic exercise prescription Harris/Brooks 4. Clinical Application of Mechanical Ventilation--3rd ed Chang, David Livingstone London 1995			
	Other References				

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch :2020-22**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2020-21**
Branch:		**IYear**
1	Course Cod e	MPT 105
2	Course Title	Journal Club and Clinical Case Presentation
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.
6	Course Outcomes	After completion of the course, the students will be able to;

		CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

School: SAHS		**Batch : 2020-22**	
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Cod e	MPT 221	
2	Course Title	Pedagogy in Physiotherapy Education	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate the students about the concepts of teaching and learning. 2. To enable them to learn about the philosophies of education. 3. To provide knowledge about curriculum, techniques, and methods of teaching.	
6	Course Outcomes	CO1. Understand the dynamics of teaching and learning. CO2. Plan effective teaching sessions in Physiotherapy. CO3: Learn method and techniques of teaching CO4: Learn meaning and concept, basis of curriculum formulation CO5:To know the use of various teaching aids	
7	Course Description	This course presents knowledge and application of different teaching methodology to the students. The course begins with core topics ofConcepts of Teaching and learning,Curriculum, various teaching methods and concept of guidance and counselling etc	
:8	Outline syllabus		CO Mapping
	Unit 1		
	A	Education: - Introduction, Educational Philosophy- Idealism Naturalism, Pragmatism	CO1,CO2
	B	Aims of Education, Functions of Education, Formal, informal and non-formalEducation,Agencies of Education	CO1,CO2
	C	Current issues and Trends in Higher Education, Issue of quality in Higher Education	CO1,CO2
	Unit 2		
	A	Meaning and scope of Educational Psychology	CO1,CO2

	B	Dynamics of behavior, Individualdifferences	CO1,CO2
	C	Method and techniques of teaching: - Lecture, Demonstration, Discussion, Seminar, Assignment, Project, CaseStudy	CO1,CO2,CO3
	Unit 3		
	A	Curriculum: - Meaning and concept, Basis of curriculum formulation, Process of curriculum development and factors involved, Evaluation ofcurriculum	CO1,CO2,CO4
	B	Framing objectivesfor curriculum, Bloom's taxonomy of instructional objectives,Writinginstructionalobjectives in behavioral terms	CO1,CO2,CO3,CO4
	C	Unit planning, Lesson planning	CO1,CO2,CO3
	Unit 4		
	A	Teaching aids, Types of teaching aids, Principles of selection, preparation and use of audio- visualaides,	CO1,CO2,CO4,CO5
	B	Measurement and Evaluation, Nature of educational measurement: meaning, process, types of tests, Construction of an achievement test and its analysis,	CO1,CO2,CO3
	C	Standardized test, Introduction ofsome standardized tools, important tests of intelligence, aptitude, and personality. Continuous and comprehensiveevaluation	CO1,CO2
	Unit 5		
	A	Guidance and counseling, Meaning & concepts of guidance and counseling, Principles of guidance andcounseling	CO1,CO2
	B	Awareness Programme, awareness and guidance to the common people about health and disease	CO1,CO2
	C	Autonomy and Accountability, Privatization of Education	CO1,CO2

	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20		80	100
	Text book/s*				
	Other References				

Pos COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	3	3	3	3	2	2	2	3	2
CO2	3	3	3	3	3	2	2	3	3	3
CO3	1	1	2	2	2	1	3	1	1	2
CO4	1	1	2	2	2	1	3	1	1	2
CO5	1	1	2	2	2	1	3	1	1	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Code	MPT 202
2	Course Title	Administration, Management and Ethical Issues
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To provide knowledge about the management process and its functions. 2. To educate about the marketing and total quality management. 3. To educate the students about the role of hospital as an organisation 4. To educate about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists.

6	Course Outcomes	CO1. Understand the basic issues of management and administration. CO2. Practice as an informed professional on legal and ethical issues in Physiotherapy. CO3 To understand the basic principle of Management and its importance. CO4:To understand the importance of hospital and how it works in different departments. CO5:To understand the role of Physiotherapy and its benefits to the society.	
7	Course Description	The course will enable the students about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists. It will help them to Practice as an informed professional on management process and its functions.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Management: Introduction, Evolution of management, Functions of management	CO1,CO3
	B	Management process – planning, organization, direction, controlling,Decision-making.	CO1,CO3
	C	Personnel management: Staffing, Recruitment selection, Performance appraisal,Collective bargaining, Jobsatisfaction.	CO1,CO3
	Unit 2		
	A	Marketing: Market segmentation, Channels of distribution, Promotion, Consumerbehavior	CO1,CO2,CO3
	B	Total Quality Management: Basics of quality management, Quality control, Quality assurance Programme in hospitals	CO1,CO2,CO3
	C	Medical audit, International qualitysystem.	CO1,CO2
	Unit 3		

	A	Hospital as an organization - Functions and types of hospitals	CO1,CO2,CO4
	B	Roles of Physical therapist, Physical therapy Director, Physiotherapy supervisor, Physiotherapy assistant,Physiotherapy aide, Home health aide, Volunteer.	CO1,CO2,C5
	C	Rules of Professional Conduct.	CO1,CO2
	Unit 4		
	A	Legal responsibility, Code of ethics	CO1,CO2
	B	Functions of Physiotherapy associations	CO1,CO2
	C	Role of the International Health Agencies	CO1,CO2
	Unit 5		
	A	Standards of practice for physiotherapists	CO1,CO2
	B	Liability and obligations in the case of medical legal action, Law of disability & discrimination	CO1,CO2
	C	Confidentially of the Patient's status, Consumer protection law, health law, MCI, DCP	CO1,CO2
	Mode of examination	Theory	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	1. Healthcare System and management: Goel, S.L. 2. Documenting physical therapy: Baeten, Angla 3. Physical Therapy Administration & Management by Hickik 4. Management Principles for physiotherapists by Nosse Lorry J. 5. Textbook of Healthcare ethics: Loeuy, Erich H	
	Other References		

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3

COs										
CO1	3	3	3	3	2	2	3	2	3	3
CO2	3	3	3	2	3	3	3	3	3	3
CO3	2	2	3	2	2	2	3	2	1	2
CO4	2	2	3	2	2	2	3	2	1	3
CO5	2	2	3	2	2	2	3	2	1	3

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Code	MPT 213
2	Course Title	CardiopulmonaryPhysiotherapy I (Medical) Theory
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy manangement of general cardiopulmonary disorders. 2. To provide knowledge about epidemiology, patho physiology and clinical conditions affecting condition of body. 3. To educate students about physiotherapy management for various cardiopulmonarydisorders.
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentationand physiotherapy management of general cardiopulmonarydisorders. CO2. Understand about epidemiology, patho physiology and clinical conditions affecting various condition of body CO3. Plan physiotherapy management for cardiopulmonary disorders. CO4: To learn about various regional cardiopulmonaryconditions CO5: To learn about various investigative procedures used in cardiopulmonarydisorders

7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various cardiopulmonarydisorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Cardiac Disorders: Cardiac Catheterization, Radionuclide scanning, (stress testing, ABG, Labs etc.) and medical management of disorders of the cardiac system	CO1,CO2,CO5
	B	Assessment of symptoms of heart disease.	CO1,CO2, CO5
	C	Disorder of cardiac rate, Rhythm and condition, Cardiac Arrest, Cardiac failure, Shock, Rheumatic fever, Congenital heart disease, Disease of the heart valve, Infective Endocarditis, Ischemic heart disease, Hypertension & Orthostatic hypotension, Pericarditis, Heart disease in pregnancy, Degenerative arterial disease, Inflammatory arterial disease, Raynaud's disease, Venous thrombosis, Peripheral Vascular disease, Cardio myopathy, Disease of the pericardium.	CO1,CO2, CO5
	Unit 2		
	A	Degenerative arterial disease, Inflammatory arterial disease,	CO1,CO2, CO5
	B	Raynaud's disease, Venous thrombosis, Peripheral Vascular disease	CO1, CO2, CO5
	C	Cardio myopathy, Disease of the pericardium	CO1, CO2, CO5
	Unit 3		
	A	Pulmonology Disorders : Epidemiology, patho-mechanics, clinical presentation, relevant diagnostic tests (PFT, Labs etc.)	CO1, CO2, CO5
	B	Medical management of disorders of the pulmonary system	CO1, CO2 CO5
	C	Disorders like : Obstructive pulmonary disease, Infection of the Respiratory system, Interstitial and infiltrative pulmonary disorders, Pulmonary disorders due to exposure to Organic and inorganic pollutants, Pulmonary disorders due to systemic inflammatory disease, Pulmonary	CO1, CO2, CO5

		vascular disease, Disease of pleura, Respiratory failure	
	Unit 4		
	A	Supplemental Oxygen and Oxygen delivery devices in Chronic Respiratory Disease	CO1, CO2,CO3,CO4
	B	Neuromuscular and Skeletal disorders leading to Global Alveolar Hypoventilation Myopathies, Spinal muscular Artophies Poliomyelitis Motor Neuron Disease HSMN Kyphoscoliosis Pectus Carinatum Pectus Excavatum	CO1, CO2, CO4
	C	Respiratory care of neurological conditions in ICU: spinal cord injury, diaphragm palsy, GBS, Myasthenia gravis, increased intracranial pressure	CO1, CO2,CO3, CO4
	Unit 5		
	A	Pathophysiology of paralytic – Restrictive pulmonary syndromes	CO1, CO2, CO4
	B	Conventional Approaches to managing n-M-Ventilatory failure, Mechanical ventilation: Concept, Physiological effect and complications	CO1, CO2,CO4
	C	Role of Physiotherapy in mechanical ventilation & weaning from ventilator	CO1, CO2,CO4
	Mode of examination	Theory	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	1. Tidy's Physiotherapy Porter, Stuart 2. Cash's TB of Chest, Heart and vascular disorders for Physiotherapists --4th ed Downie, P A 3. Exercise physiology & practical application Alexander B.S.	
	Other References	1.Recent advances in cardiopulmonary 2. Textbook of Orthopaedic & Trauma 3. Watson Jones fracture join & injuries	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	1	3	3	2	2	2	3	3	2

School: SAHS		**Batch: 2020-2022**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Cod e	MPT 215
2	Course Title	Cardiopulmonary Physiotherapy I (Medical) Practical
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy manangement of general cardiopulmonary disorders. 2. To provide knowledge about epidemiology, patho physiology and clinical conditions affecting condition of body. 3. To educate students about physiotherapy management for various cardiopulmonarydisorders.
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general cardiopulmonary disorders. CO2. Understand about epidemiology, patho physiology and clinical conditions affecting various condition of body CO3. Plan physiotherapy management for cardiopulmonary disorders. CO4: To learn about various regional cardiopulmonaryconditions CO5: To learn about various investigative procedures used in cardiopulmonarydisorders
7	Course Description	This course is designed to develop and enhance the knowledge of

		Medical management for various cardiopulmonarydisorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Demonstration ofCardiac Disorders: Cardiac Catheterization, Radionuclide scanning, (stress testing, ABG, Labs etc.) and medical management of disorders of the cardiac system	CO1,CO2,CO5
	B	Demonstration ofAssessment of symptoms of heart disease.	CO1,CO2, CO5
	C	Planning treatment of disorder of cardiac rate, Rhythm and condition, Cardiac Arrest, Cardiac failure, Shock, Rheumatic fever, Congenital heart disease, Disease of the heart valve, Infective Endocarditis, Ischemic heart disease, Hypertension & Orthostatic hypotension, Pericarditis, Heart disease in pregnancy, Degenerative arterial disease, Inflammatory arterial disease, Raynaud's disease, Venous thrombosis, Peripheral Vascular disease, Cardio myopathy, Disease of the pericardium.	CO1,CO2, CO5
	Unit 2		
	A	Planning treatment of Degenerative arterial disease, Inflammatory arterial disease,	CO1,CO2, CO5
	B	Planning treatment of Raynaud's disease, Venous thrombosis, Peripheral Vascular disease	CO1, CO2, CO5
	C	Planning treatment of Cardio myopathy, Disease of the pericardium	CO1, CO2, CO5
	Unit 3		
	A	Pulmonology Disorders : Epidemiology, patho-mechanics, clinical presentation, relevant diagnostic tests (PFT, Labs etc.)	CO1, CO2, CO5
	B	Medical management of disorders of the pulmonary system	CO1, CO2 CO5
	C	Planning treatment ofdisorders like : Obstructive pulmonary disease, Infection of the Respiratory system, Interstitial and infiltrative pulmonary disorders, Pulmonary disorders due to exposure to	CO1, CO2, CO5

		Organic and inorganic pollutants, Pulmonary disorders due to systemic inflammatory disease, Pulmonary vascular disease, Disease of pleura, Respiratory failure	
	Unit 4		
	A	Application of Supplemental Oxygen and Oxygen delivery devices in Chronic Respiratory Disease	CO1, CO2,CO3,CO4
	B	Managing Neuromuscular and Skeletal disorders leading to Global Alveolar Hypoventilation Myopathies, Spinal muscular Artophies Poliomyelitis Motor Neuron Disease HSMN Kyphoscoliosis Pectus Carinatum Pectus Excavatum	CO1, CO2, CO4
	C	Respiratory care of neurological conditions in ICU: spinal cord injury, diaphragm palsy, GBS, Myasthenia gravis, increased intracranial pressure	CO1, CO2,CO3, CO4
	Unit 5		
	A	Planning treatment of paralytic – Restrictive pulmonary syndromes	CO1, CO2, CO4
	B	Demonstration of Conventional Approaches to managing n-M-Ventilatory failure, Mechanical ventilation: Concept, Physiological effect and complications	CO1, CO2,CO4
	C	Demonstration of Role of Physiotherapy in mechanical ventilation & weaning from ventilator	CO1, CO2,CO4
	Mode of examination	Practical	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	4. Tidy's Physiotherapy Porter, Stuart 5. Cash's TB of Chest, Heart and vascular disorders for Physiotherapists --4th ed Downie, P A 6. Exercise physiology & practical application	

		Alexander B.S.	
	Other References	1.Recent advances in cardiopulmonary 2. Textbook of Orthopaedic & Trauma 3. Watson Jones fracture join & injuries	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	1	3	3	2	2	2	3	3	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-22**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Code	MPT 214
2	Course Title	CardiopulmonaryPhysiotherapy II (Surgical) Theory
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To educate students about orientation and general principles of cardiopulmonary surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures
6	Course Outcomes	CO1. Understand about the orientation and general principles of cardiopulmonary surgeries. CO2. Assess the patients following surgical procedures. CO3:Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge aboutcardiac implants CO5: Enable the students to gain knowledge aboutheart transplant,

		cardiac surgeriesandgrafting	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of cardiac surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Cardio-Thoracic Surgery: - General Principles of cardiac & pulmonary surgery	CO1,CO2,CO3
	B	Surgical management of the Various cardiopulmonary conditions, indication, contraindications for surgery	CO1,CO2,CO3
	C	Precautions after surgery.	CO1,CO2, CO3
	Unit 2		
	A	Close v/s open heart surgery,	CO1,CO2,CO3
	B	Incisions	CO1, CO2, CO3,CO4
	C	Management	CO1, CO2, CO3,CO4
	Unit 3		
	A	Preoperative Assessment of Patient, Pre and post op blood gas exchange, Hemodynamics performance of CTVS Patients,	CO1, CO2, CO3
	B	Emergencies in CTVS, A-V Shunt, Heart Transplant, Left Ventricular Assistive devices	CO1, CO2, CO3,CO4
	C	Procedure on Sternum, Chest wall, diaphragm, mediastinum, oesophagus	CO1, CO2 CO3,CO5
	Unit 4		
	A	Cardiopulmonary Bypass	CO1, CO2, CO3
	B	Maintaining and Removing Artificial Airways	CO1, CO2, CO3
	C	Pulmonary & Cardiac rehabilitation – Conservative and post-operative management	CO1, CO2, CO3
	Unit 5		
	A	Physiotherapy management general Surgical conditions	CO1, CO2, CO3

	B	Cardio-respiratory emergencies and management principles – medication, critical care,		CO1, CO2, CO3
	C	Indications of surgical intervention, stabilization of vital functions defibrillation.		CO1, CO2, CO3
	Mode of examination	Theory		
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Cash's TB of General medical & Surgical condition for Physiotherapists --2nd ed Downie, P A 2. Physiotherapy in Respiratory Care Alexondra Houg 3. Cardio Pulmonary Physical Therapy 6th ed Scoot Irwin 4. Physiotherapy in cardio-vascular rehabilitation Webber 5. Cardiopulmonary Rehabilitation (position statement-AACVPR) 6. Pulmonary Rehabilitation Guidelines ATS		
	Other References	Trauma Secrets byNaudee		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

School: SAHS		**Batch : 2020-22**	
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 216	
2	Course Title	Cardiopulmonary Physiotherapy II (Surgical)Practical	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about orientation and general principles of cardiopulmonary surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures	
6	Course Outcomes	CO1. Understand about the orientation and general principles of cardiopulmonary surgeries. CO2. Assess the patients following surgical procedures. CO3:Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge about cardiac implants CO5: Enable the students to gain knowledge about heart transplant, cardiac surgeries andgrafting.	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of cardiac surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Cardio-Thoracic Surgery: - General Principles of cardiac & pulmonary surgery	CO1,CO2,CO3
	B	Surgical management of the Various cardiopulmonary conditions, indication, contraindications for surgery	CO1,CO2,CO3
	C	Precautions after surgery.	CO1,CO2, CO3
	Unit 2		
	A	Close v/s open heart surgery,	CO1,CO2,CO3
	B	Incisions	CO1, CO2, CO3,CO4

	C	Management		CO1, CO2, CO3,CO4
	Unit 3			
	A	Preoperative Assessment of Patient, Pre and post op blood gas exchange, Hemodynamics performance of CTVS Patients,		CO1, CO2, CO3
	B	Emergencies in CTVS, A-V Shunt, Heart Transplant, Left Ventricular Assistive devices		CO1, CO2, CO3,CO4
	C	Procedure on Sternum, Chest wall, diaphragm, mediastinum, oesophagus		CO1, CO2 CO3,CO5
	Unit 4			
	A	Cardiopulmonary Bypass		CO1, CO2, CO3
	B	Maintaining and Removing Artificial Airways		CO1, CO2, CO3
	C	Pulmonary & Cardiac rehabilitation – Conservative and post-operative management		CO1, CO2, CO3
	Unit 5			
	A	Physiotherapy management general Surgical conditions		CO1, CO2, CO3
	B	Cardio-respiratory emergencies and management principles – medication, critical care,		CO1, CO2, CO3
	C	Indications of surgical intervention, stabilization of vital functions defibrillation.		CO1, CO2, CO3
	Mode of examination	Practical		
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Cash's TB of General medical & Surgical condition for Physiotherapists --2nd ed Downie, P A 2. Physiotherapy in Respiratory Care Alexondra Houg 3. Cardio Pulmonary Physical Therapy 6th ed Scoot Irwin 4. Physiotherapy in cardio-vascular rehabilitation Webber 5. Cardiopulmonary Rehabilitation (position statement-AACVPR)		

		6. Pulmonary Rehabilitation Guidelines ATS	
	Other References	Trauma Secrets byNaudee	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

School: SAHS		**Batch : 2020-22**
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**
Branch:		**I Year**
1	Course Cod e	MPT 205
2	Course Title	Journal Club and Clinical Case Presentation
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients

		CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

School: SAHS		**Batch : 2020-22**		
Program: MPT(Cardiopulmonary)		**Current Academic Year: 2021-22**		
Branch:		**II Year**		
1	Course Code	MPT 206		
2	Course Title	Dissertation		
3	Credits			
4	Contact Hours (L-T-P)			
	Course Type	Practical		
5	Course Objective	The objective of the course is that, the student will be able to 1. Apply the evidences for the search of new knowledge. 2. To develop efficient research methodology. 3. To improve the scientific literature writing.		
6	Course Outcomes	After completion of the course, the students will be able to; CO1:Gain knowledge about formulation of research protocol CO2:Apply research Methodology and skills to complete the research dissertation CO3:Develop the skill to publish and present the research CO4: Methods of scientific literature review and writing. CO5:Evidence based implementation of various research protocols.		
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.		
	Mode of examination	Practical		
	Weightage Distribution	CA	ETE	
		20%	80%	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3

CO5	3	3	3	3	3	3	3	3	3	3

Program Structure Template

School of Allied Health Sciences
Master of Physiotherapy
(Orthopaedics)

Batch – (2020-22)

Program Code – SAH0112

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

1. **Transformative educational experience**
2. **Enrichment by educational initiatives that encourage global outlook**
3. **Develop research, support disruptive innovations and accelerate entrepreneurship**
4. **Seeking beyond boundaries**

Core Values

- **Integrity**
- **Leadership**
- **Diversity**
- **Community**

Note: Detailed Mission Statements of University can be used for developing Mission Statements of Schools/ Departments.

1.2 Vision and Mission of the School

Vision of the School

To produce skilled man power in different areas of biomedical science for better healthcare delivery

Mission of the School

1. **To strengthen the main line medical and health services.**
2. **To become effective assisting and support system to medical and health personnel.**

Core Values

1. **Skilled professional**
2. **Multidimensional**
3. **Compassion**
4. **Management**

1.3 Programme Educational Objectives (PEO)

PEO1: To gain knowledge of the human body related basic medical and physiotherapeutic sciences relevant to orthopaedics.

PEO 2: To acquire the knowledge of movement dysfunction of human body and evidence based Physiotherapeutic management for the same.

PEO 3: To develop skills in musculoskeletal physiotherapy assessment by relevant and current physiotherapeutic concepts.

PEO4: To plan and implement appropriate Physiotherapeutic interventions for musculoskeletal conditions in acute and chronic phases, critical care, indoor and outdoor institutional care and independent practice.

PEO 5: To develop skills as a self-directed learner, recognize continuous education needs, select and use appropriate learning resources.

PEO 6: To develop ability to undertake research and teach undergraduate physiotherapy students.

1.3.2 Map PEOs with Mission Statements:

PEO Statements	School Mission 1	School Mission 2
PEO1:	**3**	**3**
PEO2:	**2**	**3**
PEO3:	**3**	**3**
PEO4:	**3**	**3**
PEO5:	**3**	**3**
PEO6:	**2**	**2**

1. Slight (Low) 2. Moderate (Medium) 3. Substantial (High)

1.3.3 Program Outcomes (PO's)

PO1. **Physiotherapy Knowledge:** The students will be able to possess knowledge and comprehension of the basic medicine and physiotherapeutic sciences relevant to orthopaedics.

PO2. **Understanding**: Students will be able to understand the core concepts in Physiotherapy techniques.

PO3. **Thinking ability:** Students will be able to develop the skills for musculoskeletal assessment in order to identify, examine and distinguish between various musculoskeletal conditions.

PO4. **Application:** Students will be able to demonstrate and apply the technical skills to integrate the core areas of physiotherapy practice.

PO5. **Planning:** Students will be able to design and formulate the treatment plan to address to the needs of patients safely and with appropriate regard to professional and ethical guidelines.

PO6. **Research:** Students will be able to formulate and test a hypothesis.

PO7. **Communication:** Graduates will have good leadership qualities and entrepreneur skills by working and communicating effectively in interdisciplinary environment, either independently or with a team.

Program Specific Outcomes (PSo's):

PSO1: Students will be able to assess and design a treatment plan for patients with musculoskeletal conditions.

PSO2: Students will be able to identify, select and apply advanced physiotherapy techniques for treatment purpose**.**

PSO3: Students will be able to design and formulate research which will be beneficial for the advancement in higher studies.

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

	PEO1	PEO2	PEO3	PEO4	PEO5	PEO6
PO1	3	3	3	3	3	3
PO2	3	3	3	3	3	3
PO3	3	3	3	3	3	3
PO4	3	3	3	3	3	3
PO5	3	3	3	3	3	3
PO6	3	3	3	3	3	3
PO7	3	3	3	3	3	3
PSO1	3	3	3	3	3	3
PSO2	3	3	3	3	3	3
PSO3	3	3	3	3	3	3

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

1.3.5 Program Outcome Vs Courses Mapping Table[1]:

Program Outcome Courses	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
1st Year											
Course 1.1	Research Methodology and Evidence Based Practice	2	2	2	2	2	3	2	2	2	3
Course 1.2	Basic Sciences and Biomechanics	3	3	2	2	2	2	2	2	2	2
Course 1.3	Physiotherapy Assessment and Clinical Decision Making (Theory)	3	3	3	3	2	2	3	3	2	3
Course 1.4	Advanced Physiotherapeutics(Theory)	3	3	3	3	3	2	3	2	3	3
Course 1.5	Physiotherapy Assessment and Clinical Decision Making (Practical)	3	3	3	3	2	2	3	3	2	3
Course 1.6	Advanced Physiotherapeutics(Practical)	3	3	3	3	3	2	3	2	3	3
Course 1.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
2ND Year											
Course 2.1	Pedagogy in Physiotherapy Education	2	2	2	2	1	2	3	2	2	2
Course 2.2	Administration, Management and Ethical Issues	1	1	2	2	2	3	3	2	2	3
Course 2.3	Musculoskeletal Physiotherapy I (Medical) Theory	3	3	2	2	3	2	3	2	3	3

[1] Cel value will contain the correlation value of respective course with PO.

Course 2.4	Musculoskeletal Physiotherapy II (Surgical) Theory	3	3	2	2	3	2	3	2	2	2
Course 2.5	Musculoskeletal Physiotherapy I (Medical) Practical	3	3	2	2	3	2	3	2	3	3
Course 2.6	Musculoskeletal Physiotherapy II (Surgical) Practical	3	3	2	2	3	2	3	2	2	2
Course 2.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
Course 2.8	Dissertation	3	3	3	3	3	3	3	3	3	3

1.3.5.2COURSE ARTICULATION MATRIX[2]

Program Outcome Courses	Course code	Course Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO2	PSO3
Year-1													
Theory													
Course 1.1	MPT 111	Research Methodology and Evidence Based Practice	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	2	3	3	3	3	3	2	2	3	2
			CO3	2	2	3	3	3	3	3	3	3	3
			CO4	2	1	2	2	2	3	2	2	1	3
			CO5	1	2	2	2	2	3	3	1	2	3
Course 1.2	MPT 102	Basic Sciences and Biomechanics	CO1	3	3	3	3	3	2	3	3	3	2
			CO2	3	3	3	2	3	3	3	3	2	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	2	3	3	3	2	2	3	2	2
			CO5	2	3	2	3	3	2	2	3	2	1
Course 1.3	MPT 103	Physiotherapy assessment and clinical decision making (Theory)	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2

[2] Each course outcome (Based on Blooms Taxanomy-CO1, CO2, CO3, CO4, CO5, and CO6) of the course needs to map with PO. This table evolves once faculty has mapped each course outcomes of their respective course with PO's.

Course 1.4	MPT 104	Advanced Physiotherapeutics	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	2	3	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
Practical													
Course 2.1	MPT 107	Advanced Physiotherapeutics	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	2	3	2	3	3	2	3	3	3	2
			CO4	3	2	3	3	3	2	2	3	3	2
Course 2.2	MPT 106	Physiotherapy assessment and clinical decision making	CO1	3	3	2	3	3	3	2	3	3	3
			CO2	2	3	2	3	2	3	2	2	3	2
			CO3	2	2	3	3	2	3	2	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	3	3	3	2	3	3	3	2
Course 2.3	MPT 105	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Year 2													
Theory													
Course 3.1	MPT 221	Pedagogy in Physiotherapy Education	CO1	2	3	3	3	3	2	2	2	3	2

			CO2	3	3	3	3	3	2	2	3	3	3
			CO3	1	1	2	2	2	1	3	1	1	2
			CO4	1	1	2	2	2	1	3	1	1	2
			CO5	1	1	2	2	2	1	3	1	1	2
Course 3.2	MPT 202	Administration, Management and Ethical Issues	CO1	3	3	3	3	2	2	3	2	3	3
			CO2	3	3	3	2	3	3	3	3	3	3
			CO3	2	2	3	2	2	2	3	2	1	2
			CO4	2	2	3	2	2	2	3	2	1	3
			CO5	2	2	3	2	2	2	3	2	1	3
Course 3.3	MPT 237	Musculoskeletal Physiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 3.4	MPT 238	Musculoskeletal Physiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2
Practical													
Course 4.1	MPT 205	Journal Club and Clinical Case Presentation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3

			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.2	MPT 206	Dissertation	CO1	3	3	3	3	3	3	3	3	3	3
			CO2	3	3	3	3	3	3	3	3	3	3
			CO3	3	3	3	3	3	3	3	3	3	3
			CO4	3	3	3	3	3	3	3	3	3	3
			CO5	3	3	3	3	3	3	3	3	3	3
Course 4.3	MPT 207	Musculoskeletal Physiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 4.4	MPT 208	Musculoskeletal Physiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2

1. Slight (Low) ***2. Moderate (Medium)*** ***3. Substantial (High)***

Program Structure Template
School of Allied Health Sciences
MPT(Orthopaedics)
Batch: 2020-2022
TERM: I Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[3]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
	35395	MPT 111	Research Methodology and Evidence Based Practice					Core	CC
	7926	MPT 102	Basic Sciences and Biomechanics					Core	CC
3.	7928	MPT 103	Physiotherapy Assessment and Clinical Decision Making					Core	CC
4.	7929	MPT 104	Advanced Physiotherapeutics					Core	SEC
Practical/Viva-Voce/Jury									
5.	7930	MPT 105	Journal Club and Clinical Case Presentation					Core	DSC
6.	35396	MPT 106	Physiotherapy Assessment and Clinical Decision Making					Core	SEC

[3] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

7.	35397	MPT 107	Advanced Physiotherapeutics					Core	SEC
8.	35398	MPT 108	Clinical Training					Co-requisite	SEC
TOTAL CREDITS									

Program Structure Template
School of Allied Health Sciences
MPT(Orthopaedics)
Batch: 2020-2022
TERM: II Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[4]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
8.	35399	MPT 221	Pedagogy in Physiotherapy Education					Core	CC
9.	35400	MPT 202	Administration, Management and Ethical Issues					Core	DSC
10.	35401	MPT 237	Musculoskeletal Physiotherapy I (Medical)					Core	CC
11.	35402	MPT 238	Musculoskeletal Physiotherapy II (Surgical)					Core	CC
Practical/Viva-Voce/Jury									

[4] CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

12.	35405	MPT 207	Musculoskeletal Physiotherapy I (Medical)					Core	DSC
13.	35406	MPT 208	Musculoskeletal Physiotherapy II (Surgical)					Core	DSC
14.	7939	MPT 205	Journal Club and Clinical case Presentation					Core	DSC
15.	7940	MPT 206	Dissertation					Core	DSC
16.	35407	MPT 230	Clinical Posting					Co-requisite	SEC
TOTAL CREDITS									

C. Course Templates

2.1 Template A1: Syllabus for Theory Subjects (SAMPLE)

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 111	
2	Course Title	Research Methodology and Evidence Based Practice	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To explain the basic concepts, terms and definitions used in health research. 2. To understand various types of research and formulate a research question, hypothesis and related objectives. 3. To understand the concepts of Biostatistics and its use in Physiotherapy research and select best sampling method for the chosen design and estimate sample size · 4. Carry out simple analysis of collected data and interpret findings appropriately ·	
6	Course Outcomes	The student will be able to: CO1. Understand the basic concepts, terms and definitions used in health research methodology CO2. To acquire the skills of reviewing literature, formulate a hypothesis, collecting data, writing research proposal. CO3. Describe the importance and use of Biostatistics for research work. CO4: To identify different scales of measurement used in research CO5: To read published research critically and to know how to publish a paper	
7	Course Description	This course is designed to develop the basic knowledge of research, biostatistics which can be used to understand its special needs in relation to interventions in physiotherapy . The course will provide a comprehensive introduction to research proposal writing, research methodologies, and foundational research theories and protocols	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Research in physiotherapy – Introduction, Research for Physiotherapist: Why? How? And When?, Research – Definition, concept, purpose, approaches, Internet sites for Physiotherapist	CO1, CO2

	B	Research Fundamentals, Define measurement, Measurement framework, Scales of measurement, Pilot Study, Types of variables, Reliability & Validity, Drawing Tables, graphs, master chart etc	CO1, CO2,CO4
	C	Writing a Research Proposal, Critiquing a research article, Defining a problem	CO1, CO2,CO5
	Unit 2		
	A	Review of Literature, formulating a question, Operational Definition, Inclusion & Exclusion criteria, Forming groups, Data collection & analysis, Results, Interpretation, conclusion, discussion, Informed Consent, Limitations	CO1, CO2
	B	Research Design- Principle of Designing, Design, instrumentation & analysis for qualitative research, Design, instrumentation & analysis for quantitative research Design, instrumentation & analysis for quasi-experimental research, Design models utilized in Physiotherapy	CO1, CO2,CO3,CO4
	C	Research Ethics- Importance of Ethics in Research, Main ethical issues in human subjects' research,Main ethical principles that govern research with human subjects Components of an ethically valid informed consent for research	CO1, CO2
	Unit 3		
	A	Biostatistics- Introduction, Definition, Types, Application in Physiotherapy; Data –Definition, Types, Presentation, Collection methods	CO1, CO3,CO4
	B	Measures of central value- Arithmetic mean, median, mode. Relationship between them, Partitioned values- Quatertiles, Deciles, Percentiles, Graphical	CO1, CO3,CO4

		determination	
	C	Measures of Dispersion- Range, Mean Deviation, Standard Deviation, Normal Distribution Curve, Properties of normal distribution, Standard normal distribution,Transformation of normal random variables. Inverse transformation, Normal approximation of Bioaxial distribution.	CO1, CO2,CO3,CO4
	Unit 4		
	A	Correlation analysis- Bivariate distribution: Scatter Diagram, Coefficient of correlation, Calculation & interpretation of correlational coefficient, T-test, Z-test, P-value; Regression analysis- Lines of regression, Calculation of Regression coefficient	CO1, CO3,CO4
	B	Sampling- Methods of Sampling, Sampling distribution, Standard error, Types I & II error, Probability (in Brief),Hypothesis Testing, Null Hypothesis, Alternative hypothesis, Acceptance & rejection of null Hypothesis, Level of significance	CO1, CO3,CO4
	C	Parametric & non parametric tests- Chi square test, Mann-Whitney U test, Wilcoxon Signed test, Kruskal-Wallis test, Friednam test, T-test/student T test, Analysis of variance	CO1, CO3,CO4
	Unit 5		
	A	Evidence–based health care, evidence–based practices	CO1, CO2
	B	evidence–based decision making and management	CO1, CO2
	C	Types of evidence - Definition of evidence, Forms of evidence, Randomized controlled trials, Case–control studies, Cohort studies	CO1, CO2
	Mode of examination	Theory	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	1. Recent Methods for Clinical Therapists: applied Project Design and analysis by Carolyn Hicks	

		2. Elements of Research in Physical Therapy: Dean P. Currier 3. Physical therapy Research: Principles and Applications- Elizabeth Domholdt 4. Research Methology: Kothari, C.P. 5. Methods in Biostatistics: Mahajan B.K. 6. Martin Dawes, Philip Davies, and Alistair Gray, Evidence–Based Practice: A Primer for Health Care Professionals. Elsevier Publication	
	Other References	1. Albert R. Roberts and Kenneth R. Yeager, Evidence– Based Practice Manual: Research and Outcome Measures in Health and Human Services, Oxford University Press 2. Allen Rubin, Practitioner's Guide to Using Research for Evidence–Based Practice. John Willey & Sons Publication	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	2	2	3	2
CO3	2	2	3	3	3	3	3	3	3	3
CO4	2	1	2	2	2	3	2	2	1	3
CO5	1	2	2	2	2	3	3	1	2	3

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 102	
2	Course Title	Basic Sciences and Biomechanics	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide a detailed introduction on basic anatomy, physiology, structure and function of the musculoskeletal system. 2. To educate the students about the concept of exercise physiology and its applications. 3. To encourage the students to apply the exercise physiology concepts in training and Physiotherapy. 4. To educate the students about the concepts of Biomechanics and their use in Physiotherapy.	
6	Course Outcomes	The student will be able to: CO1: Knowledge on basic anatomy,physiology, structure and function of the musculoskeletal systems. CO2: Better understanding of physiology of exercise and energy transfer that allows humans to engage in physical activity. CO3: Knowledge about basic concepts of biomechanics of musculoskeletal structures with respect to physiotherapy CO4: To understand the physiological needs of training and conditioning**.** CO5: Assessment of biomechanical aspect of various dysfunctions	
7	Course Description	This course is designed to develop a anatomical knowledge and clinical application of Anatomy in Physiotherapy treatment.It also enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and various other dysfunctions as well as knowledge of basic and applied exercise physiology	
8	Outline syllabus		CO Mapping
	Unit 1	Structure & function of the various components of musculoskeletal system	
	A	Bone structure, blood supply, and growth; Cartilage, Ligament, Muscle structure, functional & classification.	CO1

		Origin, insertion, action and nerve supply, Major nerves – Course, branches & distribution. Implication of nerve injuries.	
	B	Joints – classification, structure of joints, movements, range, limiting factors, stability, blood supply, nerve supply, its applied anatomy.	CO1
	C	Spine – Vertebral column development, structure, joints, muscles of back, applied and functional anatomy, brief description of Upper & lower extremity, abdomen, pelvis, head, neck and brain.	CO1
	Unit 2		
	A	Introduction to exercise physiology, Nutrition and Performance	CO2
	B	Energy transfer, Measurement of human energy expenditure	CO2
	C	Systems of energy delivery and utilization in Pulmonary system, Cardiovascular system, Musculoskeletal, Nervous System and Endocrine system	CO2
	Unit 3	Applied Exercise Physiology	CO2
	A	Aerobic power training, Anaerobic power training, Special aids in performance and conditioning	CO2
	B	Exercise at different altitudes, Exercise at various climatic conditions, Sport diving	CO2
	C	Obesity and weight control, Exercise and aging, Clinical exercise physiology	CO2
	Unit 4	**Kiematics and Kinetics**	
	A	Types of motion (accessory and joint play of axial and peripheral skeletal), Location of motion (instantaneous axis of movement ,shifting axis of movement), Magnitude of motion (factors determining it), Direction of motion, Angular motion and its various parameters, Linear motion and its various parameters, Projectile motions	CO3
	B	Kinetics, Definition of forces, Force vectors (composition, resolution, magnitude), Naming of Force	CO3

		(gravity and anti-gravity force,JFR), Force of gravity and COG, Stability, Reaction forces, Equilibrium & balance, Linear forces system, Friction and its various parameters, Parallel force systems, Concurrent force systems, Work power and energy, Moment arms of force & its application, Force components, Equilibrium of force	
	C	Mechanical energy, work and power, Definitions, Positive and Negative work of muscles, Muscle mechanical power, Causes of inefficient movement: Co-contractions, Isometric contraction against gravity jerky movement, Energy generation at one joint and absorption at another, Energy flow and Energy system used by the body, Energy storage	CO3
	Unit 5	**Muscle, Joint, Ligament mechanics**	
	A	Structure and composition of muscle. Physiology of musculoskeletal systems, Fiber length and cross section area, Mechanical properties of various muscles, EMG changes during fatigue and contraction, Changes in mechanical and physiological properties because of ageing, exercise and immobilization ,dystrophies and pathological conditions. Ligament & Tendon mechanics:-Structure and composition, Mechanical properties and physiological properties, Cross sectional area measurements, Muscle tendon properties, Temperature sensitivity, Changes in physical and mechanical properties because of aging, exercise and Immobilization and position, Mechanoreceptors, its types, distribution with respect to joint, structure and function, Clinical applications	CO3
	B	Joint mechanics, Joint design, Joint categories, Joint function, Arthrokinematics, Osteokinematics, Kinematic chains , Open, Closed, Joint forces, equilibrium and distribution of these forces, Degenerative changes in weight bearing joints and compensatory actions, Joint stability and its mechanics,Clinical applications	CO3

	C	Gait:- Normal gait and its parameters, Kinetics, Kinematics, Time-Space, Pathological gait with emphasis on polio, cerebral palsy, dystrophies, hemi paresis, Para paresis Running, Stair climbing, Changes in gait following various surgeries/ diseases/ disorders, Basic wheelchair skills and assessment training, Transfer skill training			CO3
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Clinical Bimechanics of the spine: White, Augustus 2. Exercise Physiology by Mc Ardle, Katch & Katch (Lippincott Williams and Wilkins, 3. Exercise Physiology:Exercise, Performance and clinical Applications by A Roberts 4. Clinical Anatomy for Medical Students 5. Textbook of Medical Physiology 6. Joint Structure and Function - A Comprehensive Analysis 7. Clinical kinesiology by Brunnstrom			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	3	3	3	2
CO2	3	3	3	2	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	3	3	3	2	2	3	2	2
CO5	2	3	2	3	3	2	2	3	2	1

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 103	
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Theory)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide the knowledge and skills about musculoskeletal system assessment and evaluation of patients. 2. To provide skills to develop clinical decision making for musculoskeletal conditions. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6	Course Outcomes	CO1. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Orthopaedic conditions. This will help form base of professional practice with the evidence based practice and enables the student to have a better understanding of the subject along with their application in Orthopaedic and various other dysfunctions.	
8	Outline syllabus		CO Mapping
	Unit 1	Musculoskeletal assessment	
	A	Review of General assessment: Patient's history, observation, palpation, examination, Sensory assessment, Motor assessment, Assessment of Tone, flexibility, tightness of musculoskeletal tissues, - Muscle Length Testing and special tests for the same, Reflex testing	CO1,CO2
	B	Limb length measurement, Range of Motion, Various disease specific and functional outcome measures and their administration.	CO1,CO4
	C	Evaluation methods, Special tests and Scales used in	CO1,CO2,CO3

		musculoskeletal disorders	
	Unit 2		
	A	Recent methods for assessment and its clinical application	CO1,CO2
	B	Electrodiagnosis : Use of Electromyography and Evoked potential studies	CO3
	C	Assessment of locomotor impairments, disabilities and disability evaluation.	CO1,CO4
	Unit 3		
	A	Balance assessment	CO1,CO2,CO3
	B	Postural assessment methods and common deviations from the normal, examination of movements	CO1,CO2,CO3
	C	Clinical Gait assessment (observational methods and EMG gait analysis)	CO1,CO2,CO3
	Unit 4		
	A	Pain assessment and scales for evaluation in acute and chronic pain	CO1,CO3
	B	Clinical assessment and rationale of laboratory investigations along with differential diagnoses.	CO1,CO3
	C	Clinical decision making in Electrotherapeutics.	CO2
	Unit 5		
	A	Functional assessment (Hand function, Gait, Posture, ADL, Occupational work)	CO1,CO2
	B	X-Ray, MRI, CT report reading and analysis	CO1
	C	Physical Disability evaluation in detail. ICF classification	CO1,CO3
	Mode of examination		
	Weightage Distribution	CA / ETE	
		20% / 80%	
	Text book/s*	1. Orthopaedic physical assessment by David J. Magee 2. Orthopaedic Rehabilitation by Brokman 3. Essential of Orthopaedic for physiotherapists by Ebnezar 4. Orthopaedic Physical therapy by Donatteli, London Churchill Livingstone	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	3	3
CO2	2	3	2	3	2	3	2	2	3	2
CO3	2	2	3	3	2	3	2	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**
Branch:		**I Year**
1	Course Code	MPT 106
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Practical)
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To provide the knowledge and skills about musculoskeletal system assessment and evaluation of patients. 2. To provide skills to develop clinical decision making for musculoskeletal conditions. 3. To provide knowledge and skills to rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.
6	Course Outcomes	CO1. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in

		Orthopaedic conditions. This will help form base of professional practice with the evidence based practice and enables the student to have a better understanding of the subject along with their application in Orthopaedic and various other dysfunctions.	
8	Outline syllabus		CO Mapping
	Unit 1	Musculoskeletal assessment	
	A	Review of General assessment: Patient's history, observation, palpation, examination, Sensory assessment, Motor assessment, Assessment of Tone, flexibility, tightness of musculoskeletal tissues, - Muscle Length Testing and special tests for the same, Reflex testing	CO1,CO2
	B	Technique to assess limb length, Range of Motion, To teach various disease specific and functional outcome measures and their administration.	CO1,CO4
	C	Evaluation methods, Special tests and Scales used in musculoskeletal disorders	CO1,CO2,CO3
	Unit 2		
	A	Training for recent methods for assessment and its clinical application	CO1,CO2
	B	Interpretation and use of electromyography and Evoked potential studies	CO3
	C	Assessment of locomotor impairments, disabilities and disability evaluation.	CO1,CO4
	Unit 3		
	A	Demonstration of balance assessment	CO1,CO2,CO3
	B	Demonstration of postural assessment methods and common deviations from the normal, examination of movements	CO1,CO2,CO3
	C	Clinical Gait assessment (observational methods and EMG gait analysis)	CO1,CO2,CO3
	Unit 4		
	A	Pain assessment and scales for evaluation in acute and chronic pain	CO1,CO3
	B	Clinical assessment and rationale of laboratory investigations along with differential diagnoses.	CO1,CO3

	C	Clinical decision making in Electrotherapeutics.			CO2
	Unit 5				
	A	Functional assessment (Hand function, Gait, Posture, ADL, Occupational work)			CO1,CO2
	B	X-Ray, MRI, CT report reading and analysis			CO1
	C	Physical Disability evaluation			CO1,CO3
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Orthopaedic physical assessment by David J. Magee 2. Orthopaedic Rehabilitation by Brokman 3. Essential of Orthopaedic for physiotherapists by Ebnezar 4. Orthopaedic Physical therapy by Donatteli, London Churchill Livingstone			
	Other References				

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 104	
2	Course Title	Advanced Physiotherapeutics (Theory)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in musculoskeletal Physiotherapy. 2. To analyse and classify various sports injuries and their management. 3. Compare & contrast the outcome of various physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of musculoskeletal conditions	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Manual therapies: different schools of thought	CO1,CO2,CO3,CO4
	B	Soft tissue manipulations and mobilizations	CO1,CO2,CO3
	C	Neural mobilization	CO1,CO2,CO3
	Unit 2		
	A	Joint manipulation – Peripheral joints and vertebral joints.	CO1,CO2,CO3, CO4
	B	Mobilization techniques like Cyriax, Maitland, Butler, Mc Kenzie, Kaltenborn , Mulligan	CO1,CO2,CO3,CO4
	C	Myofascial release technique, Muscle energy technique and Neuromuscular taping technique	CO1,CO2,CO3,CO4

	Unit 3				
	A	Analysis and classification of sports and sports specific injuries and it management			CO2,CO3
	B	Principles of injury prevention, environmental modifications			CO2,CO3
	C	Exercise planning and prescription, Recent advances in Musculoskeletal disorders and Sports Physiotherapy			CO2,CO3
	Unit 4				
	A	Electrodiagnosis: Electromyography and evoked potential studies			CO2
	B	Gait Training, Biofeedback, Hydrotherapy, Patient & family education, Relaxation Techniques, massage therapy			CO2,CO3
	C	Pain (neurobiology, various theories, modulation and management of pain)			CO2
	Unit 5				
	A	Wheelchair skills- Basic & Advanced			CO1,CO2,CO3
	B	Prosthetics and Orthotics, External aids, appliances, adaptive self-help devices, prescription, biomechanical compatibility, check out and training.			CO2,CO3
	C	Community Based Rehabilitation in musculo-skeletal disorders, Rehabilitation of hand, Industrial health and ergonomics			CO2,CO3
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Management Principles for Physiotherapist by Nosse, Lorry J 2.Myofascial and pain dysfunction by Travell, Villimans and Wilkins, Baltimore 1983 3. Vertebral Manipulation by Matiland G.D. Boston, Butterworth & Co. Boston , 1997 4. Peripheral Manipulation Matiland G.D. Boston, Butterworth & Co. Boston , 1997			

		5. Hand Rehabilitation by Christine, Churchcill, Livingstone London 1995	
	Other References		

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	3	2	3	3	2	3	3	3	2
CO4	3	2	3	3	3	2	2	3	3	2

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**I Year**	
1	Course Code	MPT 107	
2	Course Title	Advanced Physiotherapeutics (Practical)	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in musculoskeletal Physiotherapy. 2. To analyse and classify various sports injuries and their management. 3. Compare & contrast the outcome of various physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of musculoskeletal conditions	
8	Outline syllabus		CO Mapping
	Unit 1		

	A	Demonstration of Manual therapies: different schools of thought	CO1,CO2,CO3,CO4
	B	Demonstration of soft tissue manipulations and mobilizations	CO1,CO2,CO3
	C	Demonstration of Neural mobilization	CO1,CO2,CO3
	Unit 2		
	A	Demonstration of Joint manipulation – Peripheral joints and vertebral joints.	CO1,CO2,CO3, CO4
	B	Demonstration of Mobilization techniques like Cyriax, Maitland, Butler, Mc Kenzie, Kaltenborn , Mulligan	CO1,CO2,CO3,CO4
	C	Demonstration of Myofascial release technique, Muscle energy technique and Neuromuscular taping technique	CO1,CO2,CO3,CO4
	Unit 3		
	A	Assessment of sports and sports specific injuries and it management	CO2,CO3
	B	Training for principles of injury prevention, environmental modifications	CO2,CO3
	C	Demonstration of Exercise planning and prescription	CO2,CO3
	Unit 4		
	A	Demonstration of electromyography and evoked potential studies	CO2
	B	Demonstration of Gait Training, Biofeedback, Hydrotherapy	CO2,CO3
	C	Demonstration of Relaxation Techniques, massage therapy	CO2
	Unit 5		
	A	Demonstration of Wheelchair skills- Basic & Advanced	CO1,CO2,CO3
	B	Training for use of Prosthetics and Orthotics, External aids, appliances, adaptive self-help devices, prescription, biomechanical compatibility, check out and training.	CO2,CO3

	C	Training for rehabilitation of hand, Industrial health and ergonomics			CO2,CO3
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Management Principles for Physiotherapist by Nosse, Lorry J 2.Myofascial and pain dysfunction by Travell, Villimans and Wilkins, Baltimore 1983 3. Vertebral Manipulation by Matiland G.D. Boston, Butterworth & Co. Boston , 1997 4. Peripheral Manipulation Matiland G.D. Boston, Butterworth & Co. Boston , 1997 5. Hand Rehabilitation by Christine, Churchcill, Livingstone London 1995			
	Other References				

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch : 2020-2022**
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**
Branch:		**I Year**
1	Course Code	MPT 105
2	Course Title	Journal Club and Clinical Case Presentation
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation.

		CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

School: SAHS		**Batch : 2020-2022**
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Cod	MPT 221

	e		
2	Course Title	Pedagogy in Physiotherapy Education	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate the students about the concepts of teaching and learning. 2. To enable them to learn about the philosophies of education. 3. To provide knowledge about curriculum, techniques, and methods of teaching.	
6	Course Outcomes	CO1. Understand the dynamics of teaching and learning. CO2. Plan effective teaching sessions in Physiotherapy. CO3: Learn method and techniques of teaching CO4: Learn meaning and concept, basis of curriculum formulation CO5:To know the use of various teaching aids	
7	Course Description	This course presents knowledge and application of different teaching methodology to the students. The course begins with core topics of Concepts of Teaching and learning, Curriculum, various teaching methods and concept of guidance and counselling etc	
:8	Outline syllabus		CO Mapping
	Unit 1		
	A	Education: - Introduction, Educational Philosophy- Idealism Naturalism, Pragmatism	CO1,CO2
	B	Aims of Education, Functions of Education, Formal, informal and non-formal Education,Agencies of Education	CO1,CO2
	C	Current issues and Trends in Higher Education, Issue of quality in Higher Education	CO1,CO2
	Unit 2		
	A	Meaning and scope of Educational Psychology	CO1,CO2
	B	Dynamics of behavior, Individual differences	CO1,CO2
	C	Method and techniques of teaching: - Lecture, Demonstration, Discussion, Seminar, Assignment, Project, Case Study	CO1,CO2,CO3
	Unit 3		
	A	Curriculum: - Meaning and concept, Basis of curriculum formulation, Process of curriculum development and factors involved, Evaluation of	CO1,CO2,CO4

		curriculum	
	B	Framing objectives for curriculum, Bloom's taxonomy of instructional objectives, Writing instructionalobjectives in behavioral terms	CO1,CO2,CO3,CO4
	C	Unit planning, Lesson planning	CO1,CO2,CO3
	Unit 4		
	A	Teaching aids, Types of teaching aids, Principles of selection, preparation and use of audio- visual aides,	CO1,CO2,CO4,CO5
	B	Measurement and Evaluation, Nature of educational measurement: meaning, process, types of tests, Construction of an achievement test and its analysis,	CO1,CO2,CO3
	C	Standardized test, Introduction of some standardized tools, important tests of intelligence, aptitude, and personality. Continuous and comprehensive evaluation	CO1,CO2
	Unit 5		
	A	Guidance and counseling, Meaning & concepts of guidance and counseling, Principles of guidance and counseling	CO1,CO2
	B	Awareness Programme, awareness and guidance to the common people about health and disease	CO1,CO2
	C	Autonomy and Accountability, Privatization of Education	CO1,CO2
	Mode of examination	Theory	
	Weightage Distribution	CA / ETE	
		20 / 80	100
	Text book/s*		
	Other References		

Pos COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3

CO1	2	3	3	3	3	2	2	2	3	2
CO2	3	3	3	3	3	2	2	3	3	3
CO3	1	1	2	2	2	1	3	1	1	2
CO4	1	1	2	2	2	1	3	1	1	2
CO5	1	1	2	2	2	1	3	1	1	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Code	MPT 202
2	Course Title	Administration, Management and Ethical Issues
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	1. To provide knowledge about the management process and its functions. 2. To educate about the marketing and total quality management. 3. To educate the students about the role of hospital as an organisation 4. To educate about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists.
6	Course Outcomes	CO1. Understand the basic issues of management and administration. CO2. Practice as an informed professional on legal and ethical issues in Physiotherapy. CO3 To understand the basic principle of Management and its importance. CO4:To understand the importance of hospital and how it works in different departments. CO5: To understand the role of Physiotherapy and its benefits to the society.
7	Course Description	The course will enable the students about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the

		standards of practice for physiotherapists. It will help them to Practice as an informed professional on management process and its functions.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Management: Introduction, Evolution of management, Functions of management	CO1,CO3
	B	Management process – planning, organization, direction, controlling, Decision-making.	CO1,CO3
	C	Personnel management: Staffing, Recruitment selection, Performance appraisal, Collective bargaining, Job satisfaction.	CO1,CO3
	Unit 2		
	A	Marketing: Market segmentation, Channels of distribution, Promotion, Consumer behavior	CO1,CO2,CO3
	B	Total Quality Management: Basics of quality management, Quality control, Quality assurance Programme in hospitals	CO1,CO2,CO3
	C	Medical audit, International quality system.	CO1,CO2
	Unit 3		
	A	Hospital as an organization - Functions and types of hospitals	CO1,CO2,CO4
	B	Roles of Physical therapist, Physical therapy Director, Physiotherapy supervisor, Physiotherapy assistant, Physiotherapy aide, Home health aide, Volunteer.	CO1,CO2,C5
	C	Rules of Professional Conduct.	CO1,CO2
	Unit 4		
	A	Legal responsibility, Code of ethics	CO1,CO2
	B	Functions of Physiotherapy associations	CO1,CO2
	C	Role of the International Health Agencies	CO1,CO2
	Unit 5		

	A	Standards of practice for physiotherapists			CO1,CO2
	B	Liability and obligations in the case of medical legal action, Law of disability & discrimination			CO1,CO2
	C	Confidentially of the Patient's status, Consumer protection law, health law, MCI, DCP			CO1,CO2
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Healthcare System and management: Goel, S.L. 2. Documenting physical therapy: Baeten, Angla 3. Physical Therapy Administration & Management by Hickik 4. Management Principles for physiotherapists by Nosse Lorry J. 5. Textbook of Healthcare ethics: Loeuy, Erich H			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	3	2	3	3
CO2	3	3	3	2	3	3	3	3	3	3
CO3	2	2	3	2	2	2	3	2	1	2
CO4	2	2	3	2	2	2	3	2	1	3
CO5	2	2	3	2	2	2	3	2	1	3

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 237	
2	Course Title	Musculoskeletal Physiotherapy I (Medical) Theory	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy manangement of general musculoskeletal disorders. 2. To provide knowledge about epidemiology, patho physiology and clinical conditions affecting various joints of body. 3. To educate students about physiotherapy management for various musculoskeletal disorders.	
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. CO2. Understand about epidemiology, patho physiology and clinical conditions affecting various joints of body CO3. Plan physiotherapy management for various musculoskeletal disorders. CO4: To learn about various regional orthopaedic conditions CO5: To learn about various investigative procedures used in musculoskeletal disorders	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various musculoskeletal disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Congenital malformations	CO1,CO2,CO5
	B	Rheumatic disorders: - Rheumatoid arthritis, Ankylosis Spondylosis, Reiter's disease, Polymyalgia rheumatica, Psoriasis	CO1,CO2, CO5
	C	Infections of musculoskeletal system, Acute, Chronic	CO1,CO2, CO5

	Unit 2		
	A	Metabolic and endocrine disorders, Calcium metabolism, Osteoporosis, Osteomalacia and ricket, Hyper parathyrodism	CO1,CO2, CO5
	B	Tumors of the musculoskeletal system, Classification, Benign, Malignant	CO1, CO2, CO5
	C	Neuromuscular disorders, Poliomyelitis, Cerebral palsy, Arthrogryposis multiplex Congenita, Muscular dystrophy, Osteoarthritis and crystal deposition diseases	CO1, CO2, CO5
	Unit 3		
	A	Investigations, Orientation and Introduction, physical basis, normal result & common abnormal response of the procedures done for musculoskeletal conditions (in brief)	CO1, CO2, CO5
	B	X- ray, Computerized Tomography, Magnetic Resonance Imaging	CO1, CO2 CO5
	C	Bone Scan, Laboratory tests, FNAC, Bone biopsy	CO1, CO2, CO5
	Unit 4		
	A	The shoulder, rotator cuff lesions, Instability, Rheumatoid disease of shoulder, Tuberculosis. The Elbow, Tennis elbow, Golfer's elbow, Myositis ossificans	CO1, CO2,CO3,CO4
	B	The Wrist, Carpal tunnel syndrome, Ganglion, Wrist instabilities and special tests, The Hand, Peripheral nerve injuries, Tendon lesions and transfer surgeries, Deformity in rheumatoid arthritis, peripheral nerve injuries, Hemiplegia, SCI and leprosy	CO1, CO2, CO4
	C	Cervical Spine, Discogenic pain, Whiplash injuries, Thoracic outlet syndrome, Brachial plexus injury and plexopathies, Torticollis and wry neck in pathologies of cervical spine; Back, Intervertebral disc, Discogenic pain, Spondylolysis & listhesis, Scoliosis &	CO1, CO2,CO3, CO4

		kyphosis, Tuberculosis, Musculoskeletal causes of low back pain	
	Unit 5		
	A	The Hip- Avascular necrosis of femoral head., Osteoarthritis; Knee, Osteoarthritis, Meniscal / ligament injuries, Genu valgum / varum	CO1, CO2, CO4
	B	Ankle and foot, Metatarsalgia, Flat foot, Carsus foot, Hallax valgus, CTEV, Ankle sprains	CO1, CO2,CO4
	C	Fractures and joint injuries, Principles of acute fracture care, Conservative management of the following: Pediatric fractures, Injuries of shoulder, upper arm and elbow, Injuries of forearm and wrist, Injuries of Spine, Injuries of Pelvis, Injuries of Hip and Femur, Injuries of Knee, Leg Injuries, Injuries of ankle and foot	CO1, CO2,CO4
	Mode of examination	Theory	
	Weightage Distribution	CA | ETE	
		20% | 80%	
	Text book/s*	1.Essential of Orthopaedic for Physiotherapist by Ebnezar 2.Cash'TB for Ortho and rheumatology for physiotherapist by Downie 3.Principles and Practice of orthopedics and sports medicine by Garret 4. Orthopaedic rehabilitation by Brokmen 5.Treatment and rehabilitation fractures by Hoppenfield	
	Other References	1.Recent advances in Orthopaedic 2. Musculoskeletal Trauma 3. Textbook of Orthopaedic & Trauma 4. Watson Jones fracture join & injuries	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3

CO3	3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	1	3	3	2	2	2	3	3	2

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 207	
2	Course Title	Musculoskeletal Physiotherapy I (Medical) Practical	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy manangement of general musculoskeletal disorders. 2. To provide knowledge about epidemiology, patho physiology and clinical conditions affecting various joints of body. 3. To educate students about physiotherapy management for various musculoskeletal disorders.	
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. CO2. Understand about epidemiology, patho physiology and clinical conditions affecting various joints of body CO3. Plan physiotherapy management for various musculoskeletal disorders. CO4: To learn about various regional orthopaedic conditions CO5: To learn about various investigative procedures used in musculoskeletal disorders	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various musculoskeletal disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Demonstration of physiotherapy management for Congenital malformations	CO1,CO2,CO5

	B	Demonstration of physiotherapy management in Rheumatic disorders: - Rheumatoid arthritis, Ankylosis Spondylosis, Reiter's disease, Polymyalgia rheumatica, Psoriasis	CO1,CO2, CO5
	C	Demonstration of physiotherapy management for Infections of musculoskeletal system, Acute, Chronic	CO1,CO2, CO5
	Unit 2		
	A	Demonstration of physiotherapy management for metabolic and endocrine disorders, Calcium metabolism, Osteoporosis, Osteomalacia and ricket, Hyper parathyrodism	CO1,CO2, CO5
	B	Demonstration of physiotherapy management in tumors of the musculoskeletal system, Classification, Benign, Malignant	CO1, CO2, CO5
	C	Demonstration of physiotherapy management in neuromuscular disorders, Poliomyelitis, Cerebral palsy, Arthrogryposis multiplex Congenita, Muscular dystrophy, Osteoarthritis and crystal deposition diseases	CO1, CO2, CO5
	Unit 3		
	A	Investigations, Orientation and Introduction, physical basis, normal result & common abnormal response of the procedures done for musculoskeletal conditions (in brief)	CO1, CO2, CO5
	B	Interpretation of X- ray, Computerized Tomography, Magnetic Resonance Imaging	CO1, CO2 CO5
	C	Interpretation of Bone Scan, Laboratory tests, FNAC, Bone biopsy	CO1, CO2, CO5
	Unit 4		
	A	Demonstration of physiotherapy management in shoulder, rotator cuff lesions, Instability, Rheumatoid disease of shoulder, Tuberculosis.	CO1, CO2,CO3,CO4

		The Elbow, Tennis elbow, Golfer's elbow, Myositis ossificans			
	B	Demonstration of physiotherapy management for injuries of Wrist, Carpal tunnel syndrome, Ganglion, Wrist instabilities and special tests, The Hand, Peripheral nerve injuries, Tendon lesions and transfer surgeries, Deformity in rheumatoid arthritis, peripheral nerve injuries, Hemiplegia, SCI and leprosy			CO1, CO2, CO4
	C	Use of Physiotherapy in Cervical Spine, Discogenic pain, Whiplash injuries, Thoracic outlet syndrome, Brachial plexus injury and plexopathies, Torticollis and wry neck in pathologies of cervical spine; Back, Intervertebral disc, Discogenic pain, Spondylolysis & listhesis, Scoliosis & kyphosis, Tuberculosis, Musculoskeletal causes of low back pain			CO1, CO2,CO3, CO4
	Unit 5				
	A	Demonstration of physiotherapy management in Avascular necrosis of femoral head., Osteoarthritis; Knee, Osteoarthritis, Meniscal / ligament injuries, Genu valgum / varum			CO1, CO2, CO4
	B	Demonstration of physiotherapy management in Ankle and foot, Metatarsalgia, Flat foot, Carsus foot, Hallax valgus, CTEV, Ankle sprains			CO1, CO2,CO4
	C	Demonstration of physiotherapy management in Fractures and joint injuries, Principles of acute fracture care, Conservative management of the following: Pediatric fractures, Injuries of shoulder, upper arm and elbow, Injuries of forearm and wrist, Injuries of Spine, Injuries of Pelvis, Injuries of Hip and Femur, Injuries of Knee, Leg Injuries, Injuries of ankle and foot			CO1, CO2,CO4
	Mode of examination	Practical			
	Weightage Distribution	CA		ETE	
		20%		80%	

	Text book/s*	1.Essential of Orthopaedic for Physiotherapist by Ebnezar 2.Cash'TB for Ortho and rheumatology for physiotherapist by Downie 3.Principles and Practice of orthopedics and sports medicine by Garret 4. Orthopaedic rehabilitation by Brokmen 5.Treatment and rehabilitation fractures by Hoppenfield	
	Other References	1.Recent advances in Orthopaedic 2. Musculoskeletal Trauma 3. Textbook of Orthopaedic & Trauma 4. Watson Jones fracture join & injuries	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	1	3	3	2	2	2	3	3	2

1-Slight (Low)
2-Moderate (Medium)
3-Substantial (High)

School: SAHS		**Batch: 2020-2022**
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Cod e	MPT 238
2	Course Title	MusculoskeletalPhysiotherapy II (Surgical) Theory
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course	1. To educate students about orientation and general principles of

	Objective	orthopaedic surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures	
6	Course Outcomes	CO1. Understand about the orientation and general principles of orthopaedic surgeries. CO2. Assess the patients following surgical procedures. CO3: Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge about orthopaedic implants CO5: Enable the students to gain knowledge about tendon transfers, nerve suturing and grafting	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of orthopaedic surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Arthrodesis	CO1,CO2,CO3
	B	Osteotomy	CO1,CO2,CO3
	C	Arthroplasty	CO1,CO2, CO3
	Unit 2		
	A	Bone grafting	CO1,CO2,CO3
	B	Internal and external fixations, Orthopaedic implants-designs, materials, indications, post-operative assessment	CO1, CO2, CO3,CO4
	C	Distraction and limb reconstruction	CO1, CO2, CO3,CO4
	Unit 3		
	A	Correction of bone deformities and joint contractures	CO1, CO2, CO3
	B	Tendon transfers	CO1, CO2, CO3,CO4
	C	Nerve suturing and grafting.	CO1, CO2 CO3,CO5
	Unit 4		
	A	Operations on joints, Menisectomy, laminectomy,	CO1, CO2, CO3

		patellectomy		
	B	Total knee and hip replacement		CO1, CO2, CO3
	C	Amputations for upper and lower extremities		CO1, CO2, CO3
	Unit 5			
	A	Malformations of spine & spinal cord		CO1, CO2, CO3
	B	Neurosurgery of spine & peripheral Nerves, Surgeries for disc disorders		CO1, CO2, CO3
	C	Surgical management of fractures & other injuries		CO1, CO2, CO3
	Mode of examination	Theory		
	Weightage Distribution	CA	ETE	
		20%	80%	100
	Text book/s*	1. Campbell's Orthopaedic surgery 2. Watson Jones fracture join & injuries 3. Advanced reconstruction foot and ankle 4. Orthopaedic rehabilitation by Brokmen 5. Principles and Practice of Orthopaedics and Sports Medicine by Garret		
	Other References	Trauma Secrets by Naudee		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

School: SAHS		**Batch: 2020-2022**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**	
Branch:		**II Year**	
1	Course Code	MPT 208	
2	Course Title	Musculoskeletal Physiotherapy II (Surgical)Practical	
3	Credits		
4	Contact Hours (L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about orientation and general principles of orthopaedic surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures	
6	Course Outcomes	CO1. Understand about the orientation and general principles of orthopaedic surgeries. CO2. Assess the patients following surgical procedures. CO3: Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge about orthopaedic implants CO5: Enable the students to gain knowledge about tendon transfers, nerve suturing and grafting	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of orthopaedic surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	To demonstrate physiotherapy management following arthrodesis	CO1,CO2,CO3
	B	To demonstrate physiotherapy management in Osteotomy	CO1,CO2,CO3
	C	To demonstrate physiotherapy management for Arthroplasty	CO1,CO2, CO3
	Unit 2		
	A	To demonstrate physiotherapy management after bone grafting	CO1,CO2,CO3

	B	To demonstrate the use of internal and external fixations, Orthopaedic implants- designs, materials, indications, post-operative assessment		CO1, CO2, CO3,CO4
	C	To demonstrate physiotherapy management for distraction and limb reconstruction		CO1, CO2, CO3,CO4
	Unit 3			
	A	To demonstrate physiotherapy management following correction of bone deformities and joint contractures		CO1, CO2, CO3
	B	To demonstrate physiotherapy management after tendon transfers		CO1, CO2, CO3,CO4
	C	To demonstrate physiotherapy management after nerve suturing and grafting.		CO1, CO2 CO3,CO5
	Unit 4			
	A	To demonstrate physiotherapy management after operations on joints, Menisectomy, laminectomy, patellectomy		CO1, CO2, CO3
	B	To demonstrate physiotherapy management for total knee and hip replacement		CO1, CO2, CO3
	C	To demonstrate physiotherapy management following amputations for upper and lower extremities		CO1, CO2, CO3
	Unit 5			
	A	To demonstrate physiotherapy management for malformations of spine & spinal cord		CO1, CO2, CO3
	B	To demonstrate physiotherapy management after neurosurgery of spine & peripheral Nerves, Surgeries for disc disorders		CO1, CO2, CO3
	C	To demonstrate physiotherapy management for surgical management of fractures & other injuries		CO1, CO2, CO3
	Mode of examination	Practical		
	Weightage	CA	ETE	

	Distribution	20%	80%	100
	Text book/s*	1. Campbell's Orthopaedic surgery 2. Watson Jones fracture join & injuries 3. Advanced reconstruction foot and ankle 4. Orthopaedic rehabilitation by Brokmen 5. Principles and Practice of Orthopaedics and Sports Medicine by Garret		
	Other References	Trauma Secrets by Naudee		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	2	3	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	3	3	3	2

School: SAHS		**Batch : 2020-2022**
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**
Branch:		**II Year**
1	Course Code	MPT 205
2	Course Title	Journal Club and Clinical Case Presentation
3	Credits	
4	Contact Hours (L-T-P)	
	Course Type	Compulsory
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.

6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients			
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

School: SAHS		**Batch: 2020-2022**		
Program: MPT(Orthopaedics)		**Current Academic Year: 2021-22**		
Branch:		**II Year**		
1	Course Code	MPT 206		
2	Course Title	Dissertation		
3	Credits			
4	Contact Hours (L-T-P)			
	Course Type	Practical		
5	Course Objective	The objective of the course is that, the student will be able to 1. Apply the evidences for the search of new knowledge. 2. To develop efficient research methodology. 3. To improve the scientific literature writing.		
6	Course Outcomes	After completion of the course, the students will be able to; CO1:Gain knowledge about formulation of research protocol CO2:Apply research Methodology and skills to complete the research dissertation CO3:Develop the skill to publish and present the research CO4: Methods of scientific literature review and writing. CO5:Evidence based implementation of various research protocols.		
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.		
	Mode of examination	Practical		
	Weightage Distribution	CA	ETE	
		20%	80%	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3