Programme Structure

Sharda School of Allied Health Sciences

Master of Physiotherapy

Specialization:
Neurology, Orthopaedics, Cardiopulmonary, Sports

Programme Code – SAH0112

Batch: 2023-25

Sharda School of Allied Health Sciences
MPT(Neurology, Orthopaedics, Cardiopulmonary, Sports)
Batch: 2023-2025
SEMESTER: I

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[3]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P		
Theory subjects								
1.	35845	MPT 121	Advanced Biomedical Sciences	4	0	0	4	CC
2.	35846	RMS002	Biostatistics and Research Methodology	4	0	0	4	AECC
3.	35847	MPT 123	Exercise Physiology	4	0	0	4	CC
4.	35848	MPT 124	Physiotherapy Practice and Ethics	4	0	0	4	CC
Practical/Viva-Voce/Jury								
5.	35849	MPT 125**	Evidence Based Physiotherapy Practice	0	0	6	3	SEC
6.	35850	MPT 126**	Clinical Documentation	0	0	4	2	SEC
7.	31350	RBL001*	Research Based Learning-I	0	0	4	0	SEC
TOTAL CREDITS							**21**	

***RBL will be conducted in Audit mode**
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CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

Sharda School of Allied Health Sciences
MPT (Neurology)
Batch: 2023-2025
SEMESTER: II

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[4]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P		
Theory subjects								
1.	35974	MPT 127	Neurological Biomechanics	3	0	0	3	CC
2.	35975	MPT 128	Neurological Physiotherapy Assessment	4	0	0	4	CC
3.	35976	MPT 129	Advanced Physiotherapeutics in Neurological Conditions	3	0	0	3	SEC
4.		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.	35977	MPT 130	Neurological Physiotherapy Assessment	0	0	2	1	CC
2.	35978	MPT 131	Advanced Physiotherapeutics in Neurological Conditions	0	0	2	1	CC
3.	35979	MPT 132**	Clinical Reasoning in Neurological Conditions –I	0	0	6	3	AECC
4.	35980	MPT 133**	Clinical Skills in Neurological Physiotherapy -I	0	0	6	3	SEC
5.	31456	RBL002*	Research Based Learning-2	0	0	4	0	SEC
TOTAL CREDITS							**20**	

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OP

Sharda School of Allied Health Sciences
MPT (Neurology)
Batch: 2023-2025
SEMESTER: III

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[5]: 5. CC 6. AECC 7. SEC 8. DSE
				L	T	P		
Theory subjects								
1.	36207	MPT 240	Physiotherapy in Neurological Conditions-I	4	0	0	4	CC
2.	36208	MPT 241	Paediatric and Geriatric Neurorehabilitation	4	0	0	4	CC
Practical/Viva-Voce/Jury								
1.	36209	MPT242	Physiotherapy in Neurological Conditions-I	0	0	2	1	CC
2.	36210	MPT 243*	Clinical Reasoning in Neurological Conditions –II	0	0	6	3	SEC
3.	36211	MPT 244*	Clinical Skills in Neurological Physiotherapy -II	0	0	8	4	SEC
4.	31426	RBL003	Research Based Learning -3	0	0	4	2	SEC
5.	31552	INC001	Faculty Student Industry Connect	0	0	4	2	AECC
6.	33546	CCU108	Community Connect	0	0	4	2	SEC
TOTAL CREDITS							**22**	

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C: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

Sharda School of Allied Health Sciences
MPT (Neurology)
Batch: 2023-2025
SEMESTER: IV

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[6]: 9. CC 10. AECC 11. SEC 12. DSE
				L	T	P		
Theory								
1.		MPT 260	Physiotherapy in Neurological Conditions-II	4	0	0	4	CC
2.		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.		MPT 261	Physiotherapy in Neurological Conditions-II	0	0	2	1	CC
2.		MPT 262	Dissertation	0	0	36	18	CC
3.		MPT 263*	Clinical outcome and follow up in Neurological Conditions	0	0	8	4	SEC
4.		RBL004	Research Based Learning -4	0	0	4	2	CC
TOTAL CREDITS							**31**	

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

Sharda School of Allied Health Sciences
MPT(Orthopaedics)
Batch: 2023-2025
SEMESTER: II

S. No.	Paper ID	SESubject Code	Subjects	Teaching Load			Credits	Type of Course[7]: 13. CC 14. AECC 15. SEC 16. DSE
				L	T	P		
Theory subjects								
1	35981	MPT 134	Musculoskeletal Biomechanics	3	0	0	3	CC
2	35982	MPT 135	Musculoskeletal Physiotherapy Assessment	4	0	0	4	CC
3	35983	MPT 136	Advanced Physiotherapeutics in Musculoskeletal Conditions	3	0	0	3	SEC
4		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.	35984	MPT 137	Musculoskeletal Physiotherapy Assessment	0	0	2	1	CC
2.	35985	MPT 138	Advanced Physiotherapeutics in Musculoskeletal Conditions	0	0	2	1	CC
3.	35986	MPT 139	Clinical Reasoning in Musculoskeletal Conditions –I	0	0	6	3	AECC
4.	35987	MPT 140	Clinical Skills in Musculoskeletal Physiotherapy -I	0	0	6	3	SEC
5.	31456	RBL002*	Research Based Learning-2	0	0	4	0	CC
TOTAL CREDITS							**20**	

***RBL will be conducted in Audit mode**

Sharda School of Allied Health SciencesMPT(Orthopaedics)
Batch: 2023-2025
SEMESTER: III

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[8]: 17. CC 18. AECC 19. SEC 20. DSE
				L	T	P		
Theory subjects								
1.	36212	MPT 245	Physiotherapy in Musculoskeletal Conditions-I	4	0	0	4	CC
2.	36213	MPT 246	Musculoskeletal Rehabilitation	4	0	0	4	CC
Practical/Viva-Voce/Jury								
1.	36214	MPT247	Physiotherapy in Musculoskeletal Conditions-I	0	0	2	1	CC
2.	36215	MPT 248*	Clinical Reasoning in Musculoskeletal Conditions –II	0	0	6	3	SEC
3.	36216	MPT 249*	Clinical Skills in Musculoskeletal Physiotherapy -II	0	0	8	4	SEC
4.	31426	RBL 003	Research Based Learning -3	0	0	4	2	SEC
5.	31552	INC001	Faculty Student Industry Connect	0	0	4	2	SEC
6.	33546	CCU108	Community Connect	0	0	4	2	SEC
TOTAL CREDITS							**22**	

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Sharda School of Allied Health Sciences
MPT(Orthopaedics)
Batch: 2023-2025
SEMESTER: IV

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[9]: 21. CC 22. AECC 23. SEC 24. DSE
				L	T	P		
Theory subjects								
1.		MPT 264	Physiotherapy in Musculoskeletal Conditions-II	4	0	0	4	CC
2.		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.		MPT 265	Physiotherapy in Musculoskeletal Conditions-II	0	0	2	1	CC
2.		MPT 262	Dissertation	0	0	36	18	CC
3.		MPT 266	Clinical outcome and follow up in Musculoskeletal Conditions*	0	0	8	4	SEC
4.		RBL004	Research Based Learning -4	0	0	4	2	SEC
TOTAL CREDITS							**31**	

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Sharda School of Allied Health Sciences
MPT(Cardiopulmonary)
Batch: 2023-2025
SEMESTER: II

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[10]: 25. CC 26. AECC 27. SEC 28. DSE
				L	T	P		
Theory subjects								
1.	35988	MPT 141	Cardiopulmonary Biomechanics	3	0	0	3	CC
2.	35989	MPT 142	Cardiopulmonary Physiotherapy Assessment	4	0	0	4	CC
3.	35990	MPT 143	Advanced Physiotherapeutics in Cardiopulmonary Conditions	3	0	0	3	SEC
4.		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.	35991	MPT 144	Cardiopulmonary Physiotherapy Assessment	0	0	2	1	CC
2.	35992	MPT 145	Advanced Physiotherapeutics in Cardiopulmonary Conditions	0	0	2	1	CC
3.	35993	MPT 146**	Clinical Reasoning in Cardiopulmonary Conditions –I	0	0	6	3	AECC
4.	35994	MPT 147**	Clinical Skills in Cardiopulmonary Physiotherapy -I	0	0	6	3	SEC
5.	31456	RBL002*	Research Based Learning-2	0	0	4	0	CC
TOTAL CREDITS							**20**	

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***RBL will be conducted in Audit mode**

Sharda School of Allied Health Sciences
MPT(Cardiopulmonary)
Batch: 2023-2025
SEMESTER: III

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[11]: 29. CC 30. AECC 31. SEC 32. DSE
				L	T	P		
Theory subjects								
1.	36212	MPT 250	Physiotherapy in CardiopulmonaryConditions-I	4	0	0	4	CC
2.	36213	MPT 251	Cardiopulmonary Rehabilitation	4	0	0	4	CC
Practical/Viva-Voce/Jury								
1.	36214	MPT252	Physiotherapy in Cardiopulmonary Conditions-I	0	0	2	1	CC
2.	36215	MPT 253*	Clinical Reasoning in Cardiopulmonary Conditions –II	0	0	6	3	SEC
3.	36216	MPT 254*	Clinical Skills in CardiopulmonaryPhysiotherapy -II	0	0	8	4	SEC
4.	31426	RBL003	Research Based Learning -3	0	0	4	2	SEC
5.	31552	INC001	Faculty Student Industry Connect	0	0	4	2	AECC
6.	33546	CCU108	Community Connect	0	0	4	2	SEC
TOTAL CREDITS							**22**	

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Sharda School of Allied Health Sciences

MPT(Cardiopulmonary)

Batch: 2023-2025

SEMESTER: IV

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[12]: 33. CC 34. AECC 35. SEC 36. DSE
				L	T	P		
Theory subjects								
1.		MPT 267	Physiotherapy in Cardiopulmonary Conditions II	4	0	0	4	CC
2.		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.		MPT 268	Physiotherapy in Cardiopulmonary Conditions-II	0	0	2	1	CC
2.		MPT 262	Dissertation	0	0	36	18	CC
3.		MPT 269*	Clinical Outcome and follow up in Cardiopulmonary Conditions	0	0	8	4	SEC
4.		RBL004	Research Based Learning -4	0	0	4	2	SEC
TOTAL CREDITS							**31**	

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Sharda School of Allied Health SciencesMPT(Sports)
Batch: 2023-2025
SEMESTER: II

S. No.	Paper ID	Subject Code	Subjects	Teaching Load L	T	P	Credits	Type of Course[10]: 29. CC 30. AECC 31. SEC 32. DSE
Theory subjects								
1.	36071	MPT 148	Sports Biomechanics	3	0	0	3	CC
2.	36072	MPT 149	Sports Physiotherapy Assessment	4	0	0	4	CC
3.	36073	MPT 150	Advanced Physiotherapeutics in Sports	3	0	0	3	SEC
4.		OPE	Open Elective	2	0	0	2	OPE
Practical/Viva-Voce/Jury								
1.	36074	MPT 151	Sports Physiotherapy Assessment	0	0	2	1	CC
2.	36075	MPT 152	Advanced Physiotherapeutics in Sports	0	0	2	1	CC
3.	36076	MPT 153**	Clinical Reasoning in Sports Conditions –I	0	0	6	3	AECC
4.	36077	MPT 154**	Clinical Skills in Sports Physiotherapy -I	0	0	6	3	SEC
5.	31456	RBL002*	Research Based Learning-2	0	0	4	0	CC
TOTAL CREDITS							**20**	

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Sharda School of Allied Health Sciences
MPT(Sports)
Batch: 2023-2025
SEMESTER: III

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[11]: 33. CC 34. AECC 35. SEC 36. DSE
				L	T	P		
Theory subjects								
1.	36222	MPT 255	Physiotherapy in Sports Related Conditions-I	4	0	0	4	CC
2.	36223	MPT 256	Sports Traumatology	4	0	0	4	CC
Practical/Viva-Voce/Jury								
1.	36224	MPT 257	Physiotherapy in Sports related Conditions-I	0	0	2	1	CC
2.	36225	MPT 258*	Clinical Reasoning in Sports Conditions –II	0	0	6	3	SEC
3.	36226	MPT 259*	Clinical Skills in Sports Physiotherapy -II	0	0	8	4	SEC
4.	31426	RBL003	Research Based Learning -3	0	0	4	2	SEC
5.	31552	INC001	Faculty Student Industry Connect	0	0	4	2	AECC
6.	33546	CCU108	Community Connect	0	0	4	2	SEC
TOTAL CREDITS							**22**	

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Sharda School of Allied Health Sciences
MPT(Sports)
Batch: 2023-2025
SEMESTER: IV

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Credits	Type of Course[15]: 45. CC 46. AECC 47. SEC 48. DSE
				L	T	P		
Theory subjects								
1.		MPT 270	Physiotherapy in Sports Related Conditions- II	4	0	0	4	CC
2.		OPE	Open Elective	2	0	0	2	CC
Practical/Viva-Voce/Jury								
1.		MPT 271	Physiotherapy in Sports Related Conditions- II	0	0	2	1	CC
2.		MPT 262	Dissertation	0	0	36	18	CC
3.		MPT 272*	Clinical outcome and follow up in Sports Related Conditions	0	0	8	4	SEC
.4		RBL004	Research Based Learning -4	0	0	4	2	SEC
TOTAL CREDITS							**31**	

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Course Modules

School: SSAHS Programme: MPTBranch:		**Batch: 2023-2025**	
		Current Academic Year: 2023-24	
		I Semester	
1.	Course Code	MPT 121	
2.	Course Title	Advanced Biomedical Sciences	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the recent advances in Biomedical Sciences.	
6.	Course Outcomes	CO1: Recalling the human anatomy and understanding its applied aspects relevant to physiotherapy. CO2: Understanding the human physiology and its applied aspects relevant to Physiotherapy. CO3:Applying the principles of biochemistry in understanding the dysfunction of human body. CO4: Correlate the knowledge of biomedical sciences with the dysfunctions of human body. CO5: Analyzing the structure and function of the human body for treatment of dysfunctions. CO6: Evaluating the advances in the biomedical sciences to effectively understand the human body dysfunctions.	
7.	Course Description	This course covers the topics related to advances in biomedical sciences with particular emphasis on anatomical, physiological and biochemical advances.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Applied Anatomy**	
	A	Topographic anatomy concerning the neck, arm, leg and back with a focus on vessels, nerves and muscles/fascia and joints.	CO1,CO4,CO5.CO6
	B	Topographic anatomy concerning thorax, abdomen and the pelvic region with a focus on the abdominal wall, viscera, vessels and nerves.	CO1,CO4,CO5.CO6
	C	Surface anatomy and palpations concerning extremities, thorax, abdomen and the pelvic region Patho anatomy of peripheral nerve injuries, various bone pathologies.	CO1,CO4,CO5.CO6
	Unit 2	**Applied General Physiology**	
	A	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, Cardiac output and its regulation	CO2,CO4,CO5.CO6
	B	Neuromuscular System a) Basic physics of membrane potentials, and action potentials b) Mechanism of muscle contraction, c)Sources of energy for muscle contraction, d) Neural control of movement.	CO2,CO4,CO5.CO6

	C	Respiratory System a) Review of mechanics of respiration b) Pulmonary volumes and capacities c) Methods of studying respiratory abnormalities d) Regulation of Respiration.	CO2,CO4,CO5.CO6
	Unit 3	**Review of Metabolism**	
	A	Carbohydrates, and Lipids	CO3,CO4,CO5.CO6
	B	Proteins and fats	CO3,CO4,CO5.CO6
	C	Water: Fluid and electrolyte balance, Water and sodium balance	CO3,CO4,CO5.CO6
	Unit 4	**Enzymes and Markers in Blood**	
	A	Cardiovascular Markers: Troponin, Creatine Kinase, Lactate Dehydrogenase , Myoglobin, Aspartate transaminase.	CO3,CO4,CO5.CO6
	B	Neuromuscular Markers: Acetylcholine, Dopamine, GABA.	CO3,CO4,CO5.CO6
	C	Inflammatory Markers and Free Radicals: TNF alpha, Interleukins, NO, H2O2, Superoxide	CO3,CO4,CO5.CO6
	Unit 5	**Biochemical And Genetic Basis Of Diseases**	
	A	Cardiovascular Disorders: Myocardial Infarction, Cardiomyopathy, Diabetes Arthrosclerosis	CO3,CO4,CO5.CO6
	B	Neuromuscular Disorders: Epilepsy, Parkinson Disease, Alzheimer, Schizophrenia	CO3,CO4,CO5.CO6
	C	Muscular Disorders: Cystic Fibrosis, Congenital muscular dystrophy, Duchenne muscular dystrophy	CO3,CO4,CO5.CO6
	Mode of Examination	Theory	
	Weightage Distribution	CA: 25 / MSE: 25 / ESE: 50	
	Textbook/s*	1. Clinical Biochemistry (Fundamentals of Biomedical Science) by Nessar Ahmed 2. A textbook of Biochemistry by B D Chaurasia 3. Textbook of Medical Physiology Guyton and Hall 4. Textbook of Physiology by A K Jain 5. B.D. Chaurasia Textbook of Human Anatomy	
	Other References	1. Pathology implications for Physical Therapists by Catherine C. Goodman 2. Hutchison's Clinical Methods: An Integrated Approach to Clinical Practice, 23e (Hutchinson's clinical methods) by Michael Glynn MA , William M Drake	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	-	-	2	-	-	2	2	-
CO2	3	3	2	-	1	-	1	-	2	-
CO3	2	-	-	1	2	-	1	1	2	2
CO4	3	3	-	2	2	1	-	1	2	2
CO5	3	3	-	2	2	1	-	2	2	2
CO6	2	2	2	2	2	1	1	2	2	2
Avg PO	2.67	2.60	2.00	1.75	1.83	1.00	1.00	1.60	2.00	2.00

School: SSAHS Programme: MPTBranch:		Batch: 2023-2025 Current Academic Year: 2023-24 I Semester	
1.	Course Code	RMS002	
2.	Course Title	Biostatistics and Research Methodology	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
5.	Course Type	Compulsory	
6.	Course Objective	The course aims to introduce the principles of research, methods of research and analysing the research studies using Biostatistics.	
7.	Course Outcomes	CO1: To recall the basic concepts and methods of research CO2: To understand the descriptive statististics CO3: To apply the descriptive statistics on data. CO4: To correlate the inferential statistics and its application. CO5: To analyze the parametric tests and their application on data. CO6: To evaluate the non parametric tests and their application on data	
8.	Course Description	The course covers the concept of research methodology, and biostatistics	
9.	Outline Syllabus		CO Mapping
	Unit 1	**Descriptive Statistics**	
	A	Types of variables, data entry and presentation	CO1,CO2
	B	Summarization of data, frequency distribution	CO1,CO2
	C	Measurement of central tendency, variability measures	CO1,CO2
	Unit 2	**Probability theory**	
	A	Definitions and probability models	CO2, CO3
	B	Probability distributions and rules for calculating probabilities	CO1, CO3
	C	Mutually exclusive and independent events. Joint, marginal and conditional probabilities. Bayes theorem	CO2, CO3
	Unit 3	**Measures of Association**	
	A	Bivariate data, Chi-square, Odds ratio, Relative risk, regression	CO3, CO4
	B	The correlation coefficient. Interpretation of the Pearson correlation coefficient.	CO1, CO3
	C	Lab session with software	CO3, CO4
	Unit 4	**Sampling and sample size determination**	
	A	Concepts of population and sample, parameter and estimator, Sampling distribution, Methods of Sampling .	CO4,CO5
	B	Sampling error of an estimate, CLT, Sample size calculation	CO4,CO5
	C	Lab session with software	CO4,CO5
	Unit 5	**Estimation**	
	A	Point and interval, confidence intervals and their use	CO5, CO6
	B	Hypothesis testing: Null and Alternative hypothesis	CO5,CO6

		Type I and Type II errors. Level of Significance, Critical Region, Power of a test, Decision making using critical value approach and p-value approach			
	C	Lab session with software			CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Research for physiotherapists Research for Physiotherapists: Project Design and Analysis by Carolyn M. Hicks 2. APA Handbook of Research Methods in Psychology by Harris Cooper, PhD 3. Mahajan's Methods In Biostatistics For Medical Students And Research Workers by Bratati Banerjee 4. Research Methodology: Methods and Techniques by C R Kothari			
	Other References	1. Physical Therapy Research by Elizabeth 2. Introduction to research in Health Sciences by Stephen Polgar, Shane A. Thomas 3. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches by John W. Creswell 4. Elements of Research in Physical Therapy by Dean P. Currier 5. An Introduction to Biostatistics 3rd Edition, by Thomas Glover, Kevin Mitchell			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	1	-	-	2	2	3	1	1	1	3
CO2	2	-	-	2	2	3	-	2	-	3
CO3	1	1	1	2	2	2	-	1	1	3
CO4	1	1	1	2	2	2	-	1	1	3
CO5	1	2	-	2	2	2	1	1	1	3
CO6	2	1	1	2	2	2	1	1	1	3
Avg PO	1.33	1.25	1.00	2.00	2.00	2.33	1.00	1.17	1.00	3.00

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2023-24** **I Semester**	
1.	Course Code	MPT 123	
2.	Course Title	Exercise Physiology	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
5.	Course Type	Compulsory	
6.	Course Objective	This course delivers the concepts in exercise physiology and prepares students to test and prescribe suitable exercises to different group of population	
7.	Course Outcomes	CO1: To recall the principles of energy transfer in the human body. CO2: To understand the relationship of Cardiovascular system with exercise. CO3: To identify the relationship of respiratory system with exercise. CO4: To analyse the relationship of the skeletal system with exercise. CO5: Apply the principles of exercise testing in various populations. CO6: Create exercise prescription for different populations.	
7.	Course Description	This course aims to deliver scientifically based standards on exercise testing and prescription. It prepares students through the process of selecting and administering fitness assessments, using guidelines to interpret results, and drafting an exercise prescription that is in line with guidelines parameters.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Energy Transfer for Physical Activity**	
	A	Energy transfer in body	CO1
	B	Energy transfer in exercise and activities	CO1
	C	Energy expenditure during various activities	CO1
	Unit 2	**Cardiovascular System and Exercise**	
	A	Cardiovascular regulation and integration during exercise. Cardiovascular adaptations to sustained aerobic exercises.	CO2
	B	Cardiovascular Endurance testing. Athlete's heart and sudden cardiac death in sports	CO2
	C	Lipids and sports, protection from coronary heart disease, exercise and optimization of lipid profile.	CO2
	Unit 3	**Respiratory System and Exercise**	
	A	Regulation of respiration during exercise. Acid-Base regulation during exercise	CO3
	B	Respiratory adaptations to sustained aerobic exercise.	CO3
	C	Air Conditioning, Second wind, Oxygen debt	CO3
	Unit 4	**Skeletal System and Exercise**	
	A	Growth and exercise Repair and adaptation during exercise	CO4
	B	Biochemical responses and molecular mechanisms to endurance and power training. Effects of training and detraining	CO4
	C	Strength Measurement, Dynamometry, Muscle endurance testing, Assessment of muscle damage and fatigue	CO4
	Unit 5	**Exercise Testing, prescription and Aging**	

	A	Human performance analysis, Electrophysiological assessment. Exercise stress testing for diagnosis of CHD.			CO5,CO6
	B	Body composition			CO5,CO6
	C	Aging and physiological function. Exercise and longevity. Exercise prescription for healthy, aged, sedentary adults, Osteoporotic and mood disorders.			CO5,CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Exercise Physiology by Mc Ardle, Katch and katch 2. Text Book of Radiology by K. Bhargava 3. Electromyography and Neuromuscular disorders by David C. Preston 4. Cram's Introduction to Surface Electromyography 5. ACSM's Guidelines for Exercise Testing and Prescription Paperback –by American College of Sports Medicine.			
	Other References	1. Essentials of Electromyography by Gabriel 2. Johnson's Practical Electromyography Hardcover – 15Sep 2005 by Willaim S. Pease (Editor), Henry L. Lew (Editor), Ernest W. Johnson			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2	2	2	-	1	2	1	2
CO2	2	2	2	2	2	-	1	2	2	2
CO3	2	2	2	2	2	1	1	2	2	2
CO4	2	2	2	2	2	1	1	2	2	2
CO5	2	2	2	2	2	1	1	2	2	2
CO6	2	2	2	2	2	-	1	2	2	2
Avg PO	2.00	2.00	2.00	2.00	2.00	1.00	1.00	2.00	1.83	2.00

School: SSAHS Programme: MPTBranch:		Batch: 2023-2025 Current Academic Year: 2023-24 I Semester	
1.	Course Code	MPT 124	
2.	Course Title	Physiotherapy Practice and Ethics	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
5.	Course Type	Compulsory	
6.	Course Objective	1. To provide knowledge about the concepts of teaching and learning. 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 5. To educate about the standards of practice for physiotherapists.	
7.	Course Outcomes	CO1: Recalling the concepts of teaching and learning CO2: Understanding marketing and total quality management. CO3: Apply the role of Hospital as an organization and role of a Physiotherapist in the society. CO4: Analyze the ethical issues involving Physiotherapy practice. CO5: Evaluate the standards of practice of Physiotherapy profession. CO6: Elaborate the knowledge of administration and management in Physiotherapy	
8.	Course Description	The course will enable the students about the basic concepts of teaching and learning 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	
9.	Outline Syllabus		CO Mapping
	Unit 1	**Concepts of teaching and learning**	
	A	Curriculum: - Meaning and concept, Basis of curriculum formulation, Process of curriculum development and factors involved, Evaluation of curriculum, Framing objectives for curriculum, Bloom's taxonomy of instructional objectives, Unit planning, Lesson planning	CO1
	B	Teaching aids, Types of teaching aids, Principles of selection, preparation and use of audio- visual aides	CO1
	C	Measurement and Evaluation, Nature of educational measurement: meaning, process, types of tests, Construction of an achievement test and its analysis.	CO1
	Unit 2	**Introduction to management**	
	A	Management: Introduction, Evolution of management, Functions of management, Management process – planning, organization, direction, controlling, Decision-making	CO2
	B	Personnel management: Staffing, Recruitment selection, Collective bargaining, Marketing: Market segmentation, Channels of distribution, Promotion, Consumer behaviour	CO2
	C	Performance appraisal and Job satisfaction	CO2
	Unit 3	**Quality control and Quality assurance**	

	A	Marketing: Market segmentation, Channels of distribution, Promotion, Consumer behaviour			CO2
	B	Total Quality Management: Basics of quality management, Quality control, Quality assurance Programme in hospitals			CO2
	C	Medical audit, International quality system.			CO2
	Unit 4	**Role of physiotherapist and hospital**			
	A	Hospital as an organization - Functions and types of hospitals			CO3
	B	Roles of Physical therapist, Physical therapy Director, Physiotherapy supervisor, Physiotherapy assistant, Physiotherapy aide, Home health aide, Volunteer.			CO3
	C	Rules of Professional Conduct.			CO3
	Unit 5	**Ethical issues and Standards of practice**			
	A	Legal responsibility, Code of ethics,Functions of Physiotherapy associations,Role of the International Health Agencies			CO4, CO5, CO6
	B	Standards of practice for physiotherapists,Liability and obligations in the case of medical legal action, Law of disability and discrimination			CO4, CO5, CO6
	C	Confidentially of the Patient's status, Consumer protection law, health law.			CO4, CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Physical Therapy Administration and Management by Hickik 2. Management Principles for physiotherapists by Nosse Lorry J. 3. Textbook of Healthcare ethics: Loeuy, Erich H.			
	Other References	1. Documenting physical therapy: BaESEn, Angla 2. Healthcare System and management: Goel, S.L.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	-	1	2	2	-	-	2	-	-	-
CO2	2	2	2	2	2	1	1	2	2	2
CO3	2	1	1	2	2	2	1	2	2	2
CO4	2	1	1	2	2	2	1	2	2	2
CO5	2	1	1	2	2	2	1	2	2	2
CO6	2	1	1	2	2	2	1	2	2	2
	2.00	1.17	1.33	2.00	2.00	1.80	1.17	2.00	2.00	2.00

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2023-24**	
Branch:		**Semester: I**	
1	Course Code	MPT 125	
2	Course Title	Evidence Based Physiotherapy Practice	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	Compulsory	
5	Course Objective	The objective of this course is that after 60 hrs of lectures and discussion the student will be able to demonstrate an understanding of various aspects of health and disease list the methods of health administration, health education and disease preventive measures.	
6	Course Outcomes	CO1: To understand concept of evidence based practice CO2: To apply evidence based practice in clinical setup CO3: To demonstrate the recent trend and advanced treatment in physiotherapy CO4: To understand the need and interpretations of Evidences and advances in physiotherapy CO5: To formulate and apply the rehabilitation methods according to the recent trend and evidences. CO6: To create a treatment protocol based on evidence based practice	
7	Course Description	Subject follows the basic science to provide the knowledge about evidences for the recent advancements in the field of physiotherapy	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to evidence based practice**	
	A	Introduction to Evidence Based Practice: Definitions, Evidence Based Practice	CO1, CO2
	B	Concepts of Evidence based Physiotherapy: Awareness, Consultation, Judgement, and Creativity	CO3, CO4
	C	Development of Evidence based knowledge, The Individual Professional within a discipline, and Professionals across disciplines	CO4, CO5
	Unit 2	**Evidence based practitioners**	
	A	Evidence Based Practitioner: The Reflective Practitioner, The E Model, Using the E Model	CO2, CO4
	B	Finding the Evidence: Measuring outcomes in Evidence Based Practice, Measuring Health Outcomes, Measuring clinical outcomes, Inferential statistics and Causation.	CO3, CO5
	C	Searching for the Evidence: Asking Questions, Identifying different sources of evidence, Electronic, Bibliographic databases and World Wide Web, Conducting a literature search. Step by- step search for evidence	CO4, CO5
	Unit 3	**Assessing the evidence**	
	A	Assessing the Evidence: Evaluating the evidence; Levels of evidence in research using quantitative methods, Levels of evidence classification system, Outcome Measurement,	CO1, CO2,CO6

	B	The critical review of research using qualitative methods.			CO3, CO4,CO6
	C	Systematically reviewing the evidence: Stages of systematicreviews, Meta-analysis, The Cochrane collaboration			CO4, CO5,CO6
	Unit 4	**Economic evaluation of evidence**			
	A	Practice guidelines, and clinical pathways: Recent trends in health care, Clinical Practice Guidelines (CPG),			CO2, CO4,C
	B	Using the evidence: Building evidence in practice			CO3, CO5,CO6
	C	Algorithms, Clinical pathways, Legal implications in clinicalpathways and CPG, Comparison of CPGs, Algorithms and Clinical Pathways			CO4, CO5
	Unit 5	**Seminars**			
	A	Journal clubs presentations: literature reviews			CO1, CO4
	B	Formulating rehabilitation plan according to evidences			CO2,CO5
	C	Case presentations			CO1, CO5
	Mode of examination	Practical			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Text book/s*	1. Evidence based medicine by Sharon E Straus			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	1	2	2	-	1	2	2	2
CO2	2	1	1	2	2	1	1	2	2	2
CO3	2	1	1	2	2	-	1	2	2	2
CO4	2	1	1	2	2	2	1	2	2	2
CO5	2	1	1	2	2	2	1	2	2	2
CO6	2	1	1	2	2	2	1	2	2	2
Avg PO	2	1	1	2	2	1.75	1	2	2	2

School: Sharda School of Allied Health Sciences					**Batch : 2023-25**
Programme: MPT		**Current Academic Year:2023-24**			
Branch:		**I Semester**			
1	Course Code	MPT 126			
2	Course Title	Clinical Documentation			
3	Credits	2			
4	Contact Hours (L-T-P)	0-0-4			
	Course Type	Core			
5	Course Objective	The course would enable the students to understand the process of clinical documentation in physiotherapy.			
6	Course Outcomes	CO1. Understanding the basic principles of Clinical documentation. CO2. . Understanding and apply the principles of clinical documentation at various stages of clinical care. CO3. Applying the knowledge of clinical documentation in the prescribed formats. CO4. Application of concepts of clinical documentation under special considerations of clinical care. CO5. Evaluate the importance of the skill of efficient clinical documentation. CO6: Formulate the method of clinical documentation			
7	Course Description	This course shall equip the students with the skill of creating an efficient system of clinical documentation thereby enhancing the patient care.			
8	Outline syllabus				CO Mapping
	Unit 1	**Introduction to documentation**			
	A	Definition, Need of documentation			CO1, CO6
	B	Types of Documentation			CO1, CO6
	C	Ways of recording			CO1,CO6
	Unit 2	**Formats**			
	A	SOAP			CO2
	B	ICF			CO2
	C	POMR			CO2
	Unit 3	Documentation at:			
	A	Initial Examination/Evaluation			CO3, CO5
	B	Diagnosis, Prognosis			CO3, CO5
	C	Plan of Care, Visit			CO3, CO5
	Unit 4	Documentation at:			
	A	Re-examination			CO3, CO5, CO6
	B	Discharge/ Discontinuation			CO3, CO5, CO6
	C	Follow up			CO3, CO5, CO6
	Unit 5	Special Areas:			
	A	Informed Consent			CO4,CO5
	B	Confidentiality			CO4,CO5
	C	Maintenance and destruction of documents			CO4,CO5
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	

	Text book/s*/ References	1. American Physical Therapy Association. Guidelines: Physical Therapy Documentation of Patient/Client Management. 2009 2. Clinical Documentation Reference Guide, Second Edition, AAPC. 3. Guide to Clinical Documentation, Debra D Sullivan, F A Davis.	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	1	2	2	-	1	2	2	2
CO2	2	1	1	2	2	1	1	2	2	2
CO3	2	1	1	2	2	-	1	2	2	2
CO4	2	1	1	2	2	2	1	2	2	2
CO5	2	1	1	2	2	2	1	2	2	2
CO6	2	1	1	2	2	2	1	2	2	2
Avg PO	2	1	1	2	2	1.75	1	2	2	2

MPT II Semester (Neurology)

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2023-24** **II Semester**	
1.	Course Code	MPT 127	
2.	Course Title	Neurological Biomechanics	
3.	Credits	3	
4.	Contact Hours (L-T-P)	3-0-0	
5	Course Type	Compulsory	
6.	Course Objective	The course should enable the student to acquire in depth knowledge in understanding the biomechanics and kinesiology.	
7.	Course Outcomes	CO1: Recalling the fundamentals of Biomechanics CO2: Understand the basics of tissue mechanics. CO3: Understanding the development and repair in Nervous tissue. CO4: Applying the neurophysiology of movements and growth in assessing the neurological impairments. CO5: Evaluating various normal and pathological gaits and postures. CO6: Creating rehabilitation Programme using the biomechanical principles for various dysfunctions.	
8.	Course Description	The course covers the understanding of Biomechanics and kinesiology of body movement	
9.	Outline Syllabus		CO Mapping
	Unit 1	**Basic Biomechanics**	
	A	Introduction, Joint structure, review of fundamentals of biomechanics.	CO1
	B	Forces; composition and resolution of forces; force systems, Force of gravity and COG, Stability, Reaction forces, Friction, Moments, Newton's laws Equilibrium: static and dynamic Simple Machines: Levers, pulleys and Segmental dimensions Load: Load sharing and load transfer	CO1
	C	Muscle work - Positive and negative muscles work, Muscle mechanical power Causes of inefficient movement, co-contractions, Isometric contractions, against gravity jerky movement, energy generation at one joint and absorption at another, energy flow. Energy Storage.	CO1
	Unit 2	**Tissue Mechanics**	
	A	Mechanics of Bone, nerve	CO2
	B	Mechanics of tendon, ligament	CO2
	C	Mechanics of cartilage, muscle	CO2
	Unit 3	**Development of Nervous System**	
	A	Anatomy of nervous system	CO3
	B	Regeneration and repair of nervous tissue	CO3
	C	Concept of Neural Plasticity	CO3

	Unit 4	**Balance and Locomotion**			
	A	Neurophysiology of balance and coordination.			CO4
	B	Neurophysiology of locomotion.			CO4
	C	Normal sequential behavioural and Physiological changes throughout the developmental arc			CO4
	Unit 5	**Gait and Posture**			
	A	Gait- Kinetics and kinematic analysis, pathological gait			CO5,CO6
	B	Analysis of running, Stair climbing ,Changes in gait following various surgeries/ diseases/disorders			CO5,CO6
	C	Posture analysis, components of good posture.			CO5,CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Biomechanical basis of human movement, Joseph Hamill and Kathleen M.Knutzen, 3rd Edition, LWW Publications. 2. Bio-mechanics of Musculoskeletal System by Nigg, 2nd Edition, John Wiley Publication.			
	Other References	1. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	2	2	2
CO2	3	3	3	3	3	2	2	2	2	2
CO3	3	3	-	3	3	2	2	2	3	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	3	3	-	3	2	2	2	2	2
CO6	3	3	3	3	3	2	2	2	-	2
Avg PO	3	3	3	3	3	2	2	2	2	2

School: SSAHS Programme: MPT Branch: Neurology		Batch: 2023-2025 Current Academic Year: 2023-24 II Semester	
1.	Course Code	MPT 128	
2.	Course Title	Neurological Physiotherapy Assessment (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
5	Course Type	Compulsory	
6.	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 rationalize the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
7.	Course Outcomes	CO1: Understanding the process of physiotherapy assessment of a neurological patient. CO2: Formulating the problem list based on the outcome measures of assessment. CO3: Rationalizing the outcome of assessment. CO4: Applying the principles of assessment in developing individualized goals for patients. CO5: Documentation of systematic, meaningful, accurate written records of patients CO6: Designing a rehabilitation Programme for neurological patients.	
8.	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.	
9.	Outline Syllabus		CO Mapping
	Unit 1	**Neurological assessment I**	
	A	Review of Neurological assessment: Patient's history, observation, palpation, examination, Sensory assessment, Motor assessment, Assessment of Tone, flexibility, Muscle Length Testing, Reflex testing, cranial nerve testing.	CO1,CO2,CO3
	B	Higher mental functions assessment	CO1,CO2,CO3
	C	Pain assessment	CO1,CO2,CO3
	Unit 2	**Neurological assessment II**	
	A	Balance and Coordination assessment	CO1,CO2,CO3, CO4,CO5,CO6
	B	Posture assessment	CO1,CO2,CO3, CO4,CO5,CO6
	C	Gait assessment	CO1,CO2,CO3, CO4,CO5,CO6
	Unit 3	**Assessment in special Areas:**	
	A	Paediatric neurological examination.	CO1,CO2,CO3, CO4,CO5,CO6
	B	Geriatric neurological examination.	CO1,CO2,CO3, CO4,CO5,CO6
	C	Assessment in Neuro Intensive care unit.	CO1,CO2,CO3, CO4,CO5,CO6
	Unit 4	**Functional assessment**	

	A	Functional assessment			CO1,CO2,CO3, CO4,CO5,CO6
	B	Environmental assessment			CO1,CO2,CO3, CO4,CO5,CO6
	C	Physical disability evaluation (ICF)			CO1,CO2,CO3, CO4,CO5,CO6
	Unit 5	**Interpretation and Co-relation with Clinical Diagnosis of:**			
	A	X ray, Computerized Tomography, Magnetic Resonance Imaging. Intracranial Pressure monitoring, Lumbar puncture.			CO1,CO2,CO3, CO4,CO5,CO6
	B	Nerve Conduction Studies, Electromyography and Evoked potential studies			CO1,CO2,CO3, CO4,CO5,CO6
	C	Special tests and Scales used in neurological Disorders.			CO1,CO2,CO3, CO4,CO5,CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/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	1	3	3	2	2	-	2	2	2	-
CO2	1	2	3	2	2	1	2	3	2	-
CO3	2	2	3	2	3	1	2	3	3	2
CO4	1	3	3	3	3	2	2	3	3	2
CO5	1	-	2	-	3	-	2	3	3	2
CO6	3	3	3	3	3	1	2	3	3	2
Avg PO	1.50	2.60	2.83	2.40	2.67	1.25	2.00	2.83	2.67	2.00

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2023-24** **II Semester**	
1.	Course Code	MPT 129	
2.	Course Title	Advanced Physiotherapeutics in Neurological Conditions (Theory)	
3.	Credits	3	
4.	Contact Hours (L-T-P)	3-0-0	
5	Course Type	Compulsory	
6.	Course Objective	1. To provide knowledge about various techniques used in Neurological Physiotherapy. 2. To analyse and classify various Neurological Disorders and its management. 3. Compare and contrast the outcome of various physiotherapy treatment approaches	
7.	Course Outcomes	CO1: Recalling the theories governing Neurological PT practice. CO2: Understanding the principles and Techniques of various Neurological Approaches of treatment. CO3: Applying the principles of assessment and prescription of exercises in neurological population. CO4: Analyzing the physiotherapy management principles in different neurological settings. CO5: Evaluating the techniques of neurological rehabilitation in community. CO6: Formulating an efficient rehabilitation Programme using the recent methods of diagnosis	
8.	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of Neurological conditions.	
	Outline Syllabus		CO Mapping
	Unit 1	**Motor Control Theories**	
	A	Theories of Motor Control	CO1
	B	Theories of Motor learning	CO1
	C	Theories of aging	CO1
	Unit 2	**Neurological techniques-I**	
	A	Bobath and Neurodevelopment technique, Brunnstrom, PNF and Biofeedback, Rood's Approach, Functional Electrical Stimulation Neural mobilization technique, MFR, Motor Relearning Programme, Task Oriented Training, Constrained Induced Therapy.	CO2
	B	Pain management (various theories, modulation and management of pain).	CO2
	C	Assessment of fitness and exercise prescription for special neurological population.	CO3
	Unit 3	**Neurological techniques-II**	
	A	Physiotherapy Management in Neuro-ICU	CO4
	B	Basic knowledge of drugs used for neurological conditions.	CO4
	C	Pathophysiology and Management of tonal abnormalities (Spasticity, Rigidity, Hypotonia and Dystonia).	CO4
	Unit 4	**Prosthetics and Orthotics**	
	A	Prosthetics, Orthotics and Assistive Technologies, Wheelchair Prescription and Wheelchair skills- Basic and Advanced, Environmental modifications	CO4
	B	Balance, Gait, Coordination and Vestibular training	CO4

	C	Physiotherapy in Cognitive and Perceptual disorders and other psychiatric conditions.			CO4
	Unit 5	**Advances in Neurological Rehabilitation**			
	A	Yogasana - Concept of Yogic Practices, Kinds of Yogic Practices, Meaning and concept of Meditation.			CO4, CO6
	B	Community based rehabilitation for neurological dysfunction			CO5, CO6
	C	Recent Advances in Neurological Rehabilitation			CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Neurological Rehabilitation: Taly, A.B. 2. Proprioceptive Neuromuscular Facilitation Knott M and Voss, Harper and Row. 3. Clinical neurophysiology: U.K.Misra, J.Kalita. 4. Motor control Theory and practice: Shumway-cook and 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 and 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	2	3	2	3	-	2	2	3	3	2
CO2	2	-	2	3	2	2	2	3	3	2
CO3	2	3	3	3	-	2	2	2	3	3
CO4	2	3	2	3	2	-	2	3	-	2
CO5	2	2	2	3	2	2	-	3	3	2
CO6	2	2	2	-	3	2	2	3	3	2
Avg PO	2.00	2.60	2.17	3.00	2.25	2.00	2.00	2.83	3.00	2.17

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2023-24** **II Semester**	
1.	Course Code	MPT 130	
2.	Course Title	Neurological Physiotherapy Assessment (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
5	Course Type	Compulsory	
6.	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.	
7.	Course Outcomes	CO1: Understanding the process of physiotherapy assessment of a neurological patient. CO2: Formulating the problem list based on the outcome measures of assessment. CO3: Rationalizing the outcome of assessment. CO4: Applying the principles of assessment in developing individualized goals for patients. CO5: Documentation of systematic, meaningful, accurate written records of patients CO6: Designing a rehabilitation Programme for neurological patients.	
8.	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.	
9.	Outline Syllabus		CO Mapping
	Unit 1	**Neurological assessment I**	
	A	To review neurological assessment including pain assessment, sensory and motor assessment	CO1, CO2, CO3
	B	To assess higher mental functions	CO1, CO2, CO3
	Unit 2	**Neurological assessment II**	
	A	To assess balance and coordination in ataxic and movement disorders using disease specific scales	CO1,CO2,CO3, CO4,CO5,CO6
	B	To perform posture and gait assessment in neurological conditions	CO1,CO2,CO3, CO4,CO5,CO6
	Unit 3	**Assessment in special Areas:**	
	A	To perform paediatric neurological examination.	CO1,CO2,CO3, CO4,CO5,CO6
	B	To perform geriatric neurological examination	CO1,CO2,CO3, CO4,CO5,CO6
	Unit 4	**Functional assessment**	
	A	To perform functional assessment using disease specifics scales	CO1,CO2,CO3, CO4,CO5,CO6

	B	To perform environmental assessment - environmental modification in neurological conditions.			CO1,CO2,CO3, CO4,CO5,CO6
	Unit 5	**Interpretation and Co-relation with Clinical Diagnosis of:**			
	A	To interpret X ray, Computerized Tomography, Magnetic Resonance Imaging and procedures such as intracranial Pressure monitoring, Lumbar puncture.			CO1,CO2,CO3, CO4,CO5,CO6
	B	To interpret nerve conduction studies, electromyography and evoked potential studies			CO1,CO2,CO3, CO4,CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/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	1	3	3	2	2	-	2	2	2	-
CO2	1	2	3	2	2	1	2	3	2	-
CO3	2	2	3	2	3	1	2	3	3	2
CO4	1	3	3	3	3	2	2	3	3	2
CO5	1	-	2	-	3	-	2	3	3	2
CO6	3	3	3	3	3	1	2	3	3	2
Avg PO	1.50	2.60	2.83	2.40	2.67	1.25	2.00	2.83	2.67	2.00

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2023-24** **II Semester**	
1.	Course Code	MPT131	
2.	Course Title	Advanced Physiotherapeutics in Neurological Conditions (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
5	Course Type	Compulsory	
6.	Course Objective	1. To provide knowledge about various techniques used in Neurological Physiotherapy. 2. To analyse, diagnose and classify various Neurological Disorders and its management. 3. Compare and contrast the outcome of various physiotherapy treatment approaches	
7.	Course Outcomes	CO1: Recalling the theories governing Neurological PT practice. CO2: Understanding the principles and Techniques of various Neurological Approaches of treatment. CO3: Applying the principles of assessment and prescription of exercises in neurological population. CO4: Analyzing the physiotherapy management principles in different neurological settings. CO5: Evaluating the techniques of neurological rehabilitation in community. CO6: Formulating an efficient rehabilitation Programme using the recent methods of Diagnosis	
8.	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of Neurological conditions.	
	Outline Syllabus		CO Mapping
	Unit 1	**Motor Control Theories**	
	A	To demonstrate clinical implications of motor learning and motor control	CO1
	B	To understand clinical implications of Aging	CO1
	Unit 2	**Neurological techniques-I**	
	A	To demonstrate the following neurological techniques: Bobath and Neurodevelopment technique, Brunnstrom, PNF and Biofeedback, Rood's Approach, Functional Electrical Stimulation, Neural mobilization technique, MFR, Motor Relearning Programme, Task Oriented Training, Constrained Induced Therapy, MET	CO2
	B	To assess fitness and provide exercise prescription for special neurological population.	CO3
	Unit 3	**Neurological techniques-II**	
	A	To perform physiotherapy assessment and management in Neuro-ICU	CO4
	B	To check tonal abnormalities (Spasticity, Rigidity, Hypotonia and Dystonia)	CO4
	Unit 4	**Prosthetics and Orthotics**	
	A	To apply the use of Prosthetics, Orthotics and Assistive Technologies, basic and advanced wheelchair skills	CO4
	B	To apply balance, gait, coordination and vestibular training for various neurological disorders	CO4
	Unit 5	**Advances in Neurological Rehabilitation**	

	A	To apply the concept of yogasana, yogic practices and meditation.			CO5,CO6
	B	To apply recent advances in neurological rehabilitation.			CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Neurological Rehabilitation: Taly, A.B. 2. Proprioceptive Neuromuscular Facilitation Knott M and Voss, Harper and Row. 3. Clinical neurophysiology: U.K.Misra, J.Kalita. 4. Motor control Theory and practice: Shumway-cook and 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 and 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	2	3	2	3	-	2	2	3	3	2
CO2	2	-	2	3	2	2	2	3	3	2
CO3	2	3	3	3	-	2	2	2	3	3
CO4	2	3	2	3	2	-	2	3	-	2
CO5	2	2	2	3	2	2	-	3	3	2
CO6	2	2	2	-	3	2	2	3	3	2
Avg PO	2.00	2.60	2.17	3.00	2.25	2.00	2.00	2.83	3.00	2.17

School: Sharda School of Allied Health Sciences			**Batch: 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2023-24**	
Branch: Neurology		Semester: II	
1	Course Code	MPT 132	
2	Course Title	Clinical Reasoning in Neurological Conditions -I	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	SEC	
5	Course Objective	The student will be able to understand the concepts of diagnosis, testing and interpretation of clinical reasoning and history.	
6	Course Outcomes	CO1: Recall the basics of clinical reasoning CO2: Understand the criteria for assessment CO3: Choose the various special tests CO4: Analyze the diagnostic and clinical decision-making skills in cerebrovascular disorders CO5: Interpret the effect of the skills in diagnosis and clinical decision making in traumatic conditions CO6: Formulate accurate diagnosis on basis of clinical reasoning in neurological disorders	
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in neurological conditions.	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction**	
	A	Introduction to clinical reasoning	CO1
	B	Importance of systematic approach	CO1
	C	Process for clinical reasoning	CO1
	Unit 2	**Application of Clinical reasoning**	
	A	Development of clinical reasoning	CO1, CO6
	B	Models of clinical reasoning, Types of clinical reasoning	CO1, CO2
	C	Guidelines and criteria for examination	CO2
	Unit 3	**Case based approach – Disorders of cerebral circulation**	
	A	Ischaemic brain injury	CO3
	B	Haemorrhagic brain injury	CO3
	C	AVM	CO3
	Unit 4	**Case based approach – Traumatic conditions**	
	A	Spinal cord injury	CO4
	B	Traumatic brain injury	CO4

	C	Traumatic nerve injuries			CO4
	Unit 5	**Case based approach – Disorders of Muscles**			
	A	Dystrophic myopathies			CO5, CO6
	B	Non-dystrophic myopathies			CO5, CO6
	C	Muscular dystrophies			CO5, CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cash's textbook of neurology for, physiotherapists -Dowani - J P Brothers. 2. Adult Hemiplegia - Evaluation and treatment -Bobath - Oxford ButterworthHeinm an 3. Neurological Rehabilitation - CarrandShepherd -ButterworthHeinrnan 4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone. 5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone. 6. Neurological Rehabilitation - Urmpherd - Mosby.			
	Other References	7. Motor assessment of Developing Infant - PiperandDarrah - W B. Saunders. 8. Pediatric phySical therapy- Teckling Lippincott 9. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London. 10. Aging the Health care Challenge - Levis- FA Davis.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	2	2	2
CO3	3	3	2	3	2	1	2	2	2	2
CO4	3	3	3	3	3	2	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	3
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2023-24**	
Branch: Neurology		Semester: II	
1	Course Code	MPT 133	
2	Course Title	Clinical Skills in Neurological Physiotherapy –I	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	SEC	
5	Course Objective	The student will be able to understand the concepts of neurological physiotherapy clinical skills in clinical set up.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: Gain knowledge about patient assessment and examination techniques, including a systematic approach to physiotherapy assessment CO2: Understand the assessment of ICU patient CO3: Apply rehabilitation strategies for paediatric patient CO4: Analyze physiotherapy techniques according to a patient condition CO5: Evaluate appropriate physiotherapy techniques for fall prevention CO6 : Formulate plan for balance evaluation and training	
7	Course Description	The course is designed to develop the basic knowledge about the concept of Clinical skills of neurological physiotherapy.	
8	Outline syllabus		CO Mapping
	Unit 1	**Neurological assessment**	
	A	Neurological examination	CO1
	B	Examination of un-conscious patient	CO1
	C	Examination of neonate	CO1
	Unit 2	**ICU Assessment**	
	A	Bed side assessment of patient in ICU	CO2
	B	Mechanical ventilator assessment	CO2
	C	bed sore examination	CO2
	Unit 3	**Paediatric rehabilitation**	
	A	Muscular dystrophy	CO3
	B	Myopathies	CO3
	C	Myotonia	CO3
	Unit 4	Paediatric rehabilitation	
	A	CP	CO3, CO4
	B	ASD, MR	CO3, CO4
	C	Spina bifida, hydrocephalus	CO3, CO4
	Unit 5	Geriatric rehabilitation	
	A	Parkinson's disease	CO5, CO6
	B	Dementia, Alzheimer's disease	CO5, CO6
	C	Balance and fall prevention training	CO5, CO6

	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cash's textbook of neurology for, physiotherapists - Dowani - J P Brothers. 2. Adult Hemiplegia - Evaluation and treatment - Bobath - Oxford ButterworthHeinm an 3. Neurological Rehabilitation - CarrandShepherd - ButterworthHeinrnan 4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone. 5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone. 6. Neurological Rehabilitation - Urmpherd - Mosby.			
	Other References	7. Motor assessment of Developing Infant - Piper andDarrah - W B. Saunders. 8. Pediatric physical therapy- Teckling Lippincott 9. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London. 10. Aging the Health care Challenge - Levis- FA Davis.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	2	2	2
CO3	3	3	2	3	2	1	2	2	2	2
CO4	3	3	3	3	3	2	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	3
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

MPT III Semester (Neurology)

School: SSAHS Programme: MPT Branch: Neurology		**Batch: 2023-2025**	
		Current Academic Year: 2024-25	
		III Semester	
1.	Course Code	MPT 240	
2.	Course Title	Physiotherapy in Neurological Conditions-I (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
5	Course Type	Compulsory	
6.	Course Objective	To provide the knowledge about medical and physiotherapy assessment as well as management of various neurological conditions.	
7.	Course Outcomes	CO1: Remembering the etiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the nervous system. CO2: Understanding the basic concepts of assessment of various neurological diseases/disorders. CO3: Analyzing the techniques of evaluation of neurological conditions. CO4: Applying the principles of physiotherapy management in planning a comprehensive neurological rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for physiotherapy management of neurological conditions. CO6: Creating a customised neurological rehabilitation Programme for specificconditions.	
8.	Course Description	This course aims at providing knowledge to the students about the medical, surgical and physiotherapy methods of assessment and management of various neurological conditions.	
9.	Outline Syllabus	Introduction, etiology, Path physiology, Clinical presentation, conservative and surgical management, complications, PT assessment and PT Management of the following conditions:	CO Mapping
	Unit 1	**Neurological Conditions-I**	
	A	Disorders of cerebral circulation- Stroke	CO1, CO2, CO3, CO4, CO5, CO6
	B	Alzheimer's' Disease, Huntington's Disease	CO1, CO2, CO3, CO4, CO5, CO6
	C	Brain Tumors	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 2	**Neurological Conditions-II**	
	A	Head Injury	CO1, CO2, CO3, CO4, CO5, CO6
	B	Cognitive perceptual dysfunction	CO1, CO2, CO3, CO4, CO5, CO6
	C	Transverse Myelitis	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 3	**Infectious disorders of nervous system**	
	A	Meningitis, Encephalitis	CO1, CO2, CO3, CO4, CO5, CO6
	B	Brain Abscess, Syphilis, Herpes Simplex	CO1, CO2, CO3, CO4, CO5, CO6

	C	Poliomyelitis, Tuberculosis			CO1, CO2, CO3, CO4, CO5, CO6
	Unit 4	**Paediatric Neurology**			
	A	Cerebral Palsy, Developmental disorder, learning difficulties, ADHD, ASD			CO1, CO2, CO3, CO4, CO5, CO6
	B	Congenital and hereditary Disorders-Congenital structural defects, Neural tube defect, vertebral anomalies and posterior fossa malformation-Spina bifida, Hydrocephalus, Syringomyelia, Arnold-Chiari malformation, Dandy-Walker syndrome.			CO1, CO2, CO3, CO4, CO5, CO6
	C	Neonatal care; risk babies and management			CO1, CO2, CO3, CO4, CO5, CO6
	Unit 5	**Neurological Surgeries**			
	A	Surgeries for Vascular Dysfunction of Brain			CO1, CO2, CO3, CO4, CO5, CO6
	B	Malformations of spine and spinal cord-Surgeries			CO1, CO2, CO3, CO4, CO5, CO6
	C	Intensive Care Unit Management of the Neurologically Impaired Patient			CO1, CO2, CO3, CO4, CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Physical Rehabilitation by Susan B, O' Sullivan, Thomas J.Schmitz. 2. Neurological Rehabilitation: Umphred, Darcy,A			
	Other References	1. Neurological Rehabilitation: Taly,A.B. 2.Stroke Therapy: Fisher,Marc. 3. Clinical neurophysiology: U.K.Misra,J.Kalita. 4. Bickerstaff's neurological examination in clinicalpractice. 5. Neurological differential diagnosis – JohnPatten.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.50	2.50	1.75	2.00	2.83	2.83	1.25

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2024-25**	
Branch: Neurology		Semester: III	
1	Course Code	MPT 241	
2	Course Title	Paediatric and Geriatric Neurorehabilitation	
3	Credits	4	
4	Contact Hours (L-T-P)	4-0-0	
	Course Type	Core	
5	Course Objective	1. The objective of this course is that student will be able to perform assessment for various conditions of pediatric and geriatric population. 2. Students will be able to plan rehabilitation for various conditions of pediatric and geriatric population.	
6	Course Outcomes	CO1: Remember the developmental milestones, primitive reflexes and changes associated with aging. CO2: Understand the assessment methods and tools for geriatric and pediatric patients. CO3: Apply assessment techniques for geriatric and pediatric patient. CO4: Understand and apply rehabilitation strategies for various pediatric and geriatric conditions. CO5: Analyze and prepare patient specific treatment protocol for various pediatric and geriatric conditions.	
7	Course Description	This course is designed to provide students' knowledge of, assessment methods and rehabilitation strategies of various pediatric and geriatric conditions.	
8	Outline syllabus		CO Mapping
	Unit 1	Assessment	
	A	Neonatal assessment	CO1, CO2
	B	Pediatric assessment	CO1, CO2
	C	Geriatric assessment	CO1, CO2
	Unit 2	Pediatric rehabilitation- I	
	A	Rehabilitation of Meningitis, Encephalitis, Epilepsy	CO3, CO4
	B	Rehabilitation of ASD, Mental retardation, Down's syndrome	CO4
	C	Rehabilitation of Cerebral palsy	CO4
	Unit 3	Pediatric rehabilitation- II	
	A	Rehabilitation of Spina bifida, Hydrocephalus	CO2, CO4
	B	Rehabilitation of Poliomyelitis, Muscular dystrophies, Myopathies	CO2, CO4
	C	Rehabilitation of Cerebral and Vertebral anomalies	CO2, CO4
	Unit 4	Pediatric rehabilitation – III	
	A	Rehabilitation of Traumatic Brain Injury, Spinal cord injury (Traumatic and Non-traumatic)	CO3, CO5

	B	Rehabilitation of Nutritional disorders and High Risk infants		CO4, CO5
	C	Rehabilitation in Pediatric oncology		CO3, CO4
	Unit 5	**Geriatric rehabilitation**		
	A	Rehabilitation of Parkinson's disease		CO4, CO5, CO6
	B	Rehabilitation of Dementia and Alzheimer's disease		CO4, CO5, CO6
	C	Rehabilitation of balance disorders		CO4, CO5, CO6
	Mode of examination	Theory		
	Weightage Distribution	CA	MSE	ESE
		25	25	50
	Text book/s*	1. Cash's textbook of neurology for, physiotherapists - Dowani - J P Brothers. 2. Adult Hemiplegia - Evaluation and treatment - Bobath - Oxford ButterworthHeinm an 3. Neurological Rehabilitation - CarrandShepherd - ButterworthHeinrnan 4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone. 5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone. 6. Neurological Rehabilitation - Urmpherd - Mosby. 7. Geriatric physical therapy- Gucciona- Mosby		
	Other References	8. Motor assessment of Developing Infant - Piper andDarrah - W B. Saunders. 9. Pediatric phySical therapy- Teckling Lippincott 10. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London. 11. Aging the Health care Challenge - Levis- FA Davis. Physiotherapy in Pediatrics - Shepherd - Butterworth Heinrnan		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	2	2	2	-		1	2	-	-
CO2	3	3	3	3	2	1	2	2	2	2
CO3	3	3	2	3	2	-	2	2	2	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	2
CO6	3	3	3	3	3	2	3	3	3	2
Avg PO	2.83	2.83	2.67	2.83	2.60	1.50	2.33	2.50	2.60	2.20

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2024-25** **III Semester**	
1.	Course Code	MPT 242	
2.	Course Title	Physiotherapy in Neurological Conditions-I (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
5	Course Type	Compulsory	
6.	Course Objective	To provide the knowledge about medical and physiotherapy assessment as well as management of various neurological conditions.	
7.	Course Outcomes	CO1: Remembering the etiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the nervous system. CO2: Understanding the basic concepts of assessment of various neurological diseases/disorders. CO3: Analyzing the techniques of evaluation of neurological conditions. CO4: Applying the principles of physiotherapy management in planning a comprehensive neurological rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for physiotherapy management of neurological conditions. CO6: Creating a customised neurological rehabilitation Programme for specificconditions.	
8.	Course Description	This course aims at providing knowledge to the students about the medical, surgical and physiotherapy methods of assessment and management of various neurological conditions.	
9.	Outline Syllabus	Introduction, etiology, Path physiology, Clinical presentation, conservative and surgical management, complications, PT assessment and PT Management of the following conditions:	CO Mapping
	Unit 1	**Neurological Conditions-I**	
	A	To demonstrate physiotherapy management for Disorders of cerebral circulation- Stroke	CO1, CO2, CO3, CO4, CO5, CO6
	B	To demonstrate physiotherapy management for Alzheimer's' Disease, Huntington's Disease, brain tumour	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 2	**Neurological Conditions-II**	
	A	To assess and provide physiotherapy management for head Injury	CO1, CO2, CO3, CO4, CO5, CO6
	B	To provide physiotherapy management for cognitive perceptual dysfunction, transverse myelitis	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 3	**Infectious disorders of nervous system**	
	A	To assess and rehabilitate Meningitis, Encephalitis	CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate brain Abscess, Syphilis, Herpes Simplex	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 4	**Paediatric Neurology**	

	A	To assess and rehabilitate cerebral Palsy, Developmental disorder, learning difficulties, ADHD, ASD			CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate congenital and hereditary disorders			CO1, CO2, CO3, CO4, CO5, CO6
	Unit 5	**Neurological Surgeries**			
	A	To rehabilitate following surgeries for Vascular Dysfunction of Brain and spinal cord			CO1, CO2, CO3, CO4, CO5, CO6
	B	To perform Intensive Care Unit Management of the Neurologically Impaired Patient			CO1, CO2, CO3, CO4, CO5, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
50	**Textbook/s***	Physical Rehabilitation by Susan B, O' Sullivan, Thomas J.Schmitz. Neurological Rehabilitation: Umphred, Darcy,A			
	Other References	Neurological Rehabilitation: Taly,A.B. Stroke Therapy: Fisher,Marc. Clinical neurophysiology: U.K.Misra,J.Kalita. Bickerstaff's neurological examination in clinicalpractice. Neurological differential diagnosis – JohnPatten.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.50	2.50	1.75	2.00	2.83	2.83	1.25

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2024-25**	
Branch: Neurology		Semester: III	
1	Course Code	MPT 243	
2	Course Title	Clinical Reasoning in Neurological Conditions –II	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-8	
	Course Type	SEC	
5	Course Objective	The student will be able to understand the concepts of diagnosis, testing and interpretation of clinical reasoning, differential diagnosis.	
6	Course Outcomes	CO1: Recall the clinical reasoning models CO2: Understand the concept of differential diagnosis CO3: Apply the skills in diagnosis and clinical decision making in neurological disorders CO4: Analyze the skills in diagnosis and clinical decision making in neuropathies CO5: Decide the skills to be used in diagnosis and clinical decision making in paediatric conditions CO6: Formulate the diagnosis and plan for rehabilitation of neurological Disorders	
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in neurological conditions.	
8	Outline syllabus		CO Mapping
	Unit 1	**Clinical reasoning application models**	
	A	HOAC, SCRIPT	CO1
	B	Differential diagnosis, advanced PT examination	CO1, CO2
	C	Problem oriented approach , dilemmas in clinical practice	CO1, CO2
	Unit 2	Case based approach – movement disorders	
	A	Parkinson's disease	CO3
	B	Ballismus	CO3, CO2
	C	Chorea, athetosis	CO2, CO3
	Unit 3	Case based approach – neuropathies	
	A	Diabetic neuropathy, metabolic neuropathy	CO4
	B	GBS	CO4
	C	Polyneuropathy, entrapment neuropathies	CO4
	Unit 4	**Case based approach – paediatric conditions**	
	A	Cerebral palsy	CO5
	B	Autistic spectrum disorder, Down's syndrome	CO5
	C	Spina bifida, hydrocephalus, ACM	CO5
	Unit 5	**Case based approach – Disorders of balance**	
	A	Balance dysfunction	CO6

	B	Ataxia			CO6
	C	Vestibular dysfunction			CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cash's textbook of neurology for, physiotherapists -Dowani - J P Brothers. 2. Adult Hemiplegia - Evaluation and treatment - Bobath -Oxford ButterworthHeinm an 3. Neurological Rehabilitation - CarrandShepherd -ButterworthHeinrnan 4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone. 5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone. 6. Neurological Rehabilitation - Urmpherd - Mosby.			
	Other References	7. Motor assessment of Developing Infant - PiperandDarrah - W B. Saunders. 8. Pediatric phySical therapy- Teckling Lippincott 9. Treatment of cerebral Palsy and motor Delay - Levitts-Blackwell Scientific Publications, London. 10. Aging the Health care Challenge - Levis- FA Davis.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2024-25**	
Branch: Neurology		Semester: III	
1	Course Code	MPT 244	
2	Course Title	Clinical Skills in Neurological Physiotherapy –II	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-8	
	Course Type	SEC	
5	Course Objective	The student will be able to understand the concepts of neurological physiotherapy clinical skills in clinical set up.	
6	Course Outcomes	CO1: Gain knowledge about physiotherapy assessment and management techniques for balance training CO2: Understand physiotherapy assessment and management techniques for gait training CO3: Apply physiotherapy assessment and management techniques for functional training CO4: Analyze the physiotherapy techniques for neurological conditions CO5: Choose among different techniques for rehabilitation CO6 : Formulate a treatment plan using different techniques for rehabilitation	
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical skills of neurological physiotherapy.	
8	Outline syllabus		CO Mapping
	Unit 1	**Balance rehabilitation**	
	A	Balance assessment	CO1
	B	Balance training	CO1
	C	Transfer of activities in different environment	CO1
	Unit 2	**Gait rehabilitation**	
	A	Gait assessment	CO2
	B	Preparation for gait training	CO2
	C	Gait training using different modalities	CO2
	Unit 3	**Functional rehabilitation**	
	A	Mat activities	CO3
	B	ADL training	CO3
	C	Mobility/transfer training	CO3
	Unit 4	**Motor control**	
	A	Strategies to improve motor control	CO4
	B	Strategies to improve muscle strength	CO4
	C	Strategies to normalize muscle tone and optimize muscle length	CO4

	Unit 5	**Neurorehabilitation approaches**			
	A	Proprioceptive neuromuscular facilitation			CO5
	B	Neurodevelopmental therapy, Brunnstorm approach			CO5, CO6
	C	Rood's therapy, Vojta therapy			CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cash's textbook of neurology for, physiotherapists - Dowani - J P Brothers. 2. Adult Hemiplegia - Evaluation and treatment - Bobath - Oxford ButterworthHeinm an 3. Neurological Rehabilitation - CarrandShepherd - ButterworthHeinrnan 4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone. 5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone. 6. Neurological Rehabilitation - Urmpherd - Mosby.			
	Other References	7. Motor assessment of Developing Infant - Piper andDarrah - W B. Saunders. 8. Pediatric phySical therapy- Teckling Lippincott 9. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London. 10. Aging the Health care Challenge - Levis- FA Davis.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

School: SSAHS		**Batch: 2023-25**
Programme: MPT		**Current Academic Year: 2024-25**
Branch: Neurology		**Semester: 3rd semester**
1	Course Code	INC001
2	Course Title	Faculty Student Industry Connect (FSIC)
3	Credits	2
4	Contact Hours (L-T-P)	0-0-4
	Course Status	Compulsory
5	Course Objective	To create a platform to enhance the industry-academia interaction To give exposure to the industry to our faculty members and students To bridge the gap between industry and academia
6	Course Outcomes	CO1: Enhanced role of the university across industries in the form of knowledge creation, learning, training, consultancy CO2: To give real-time exposure to our faculties about industry environment CO3:Developing an understanding of various real-time problems, latest updates, technological advancements, and best practices of the industry CO4: Establishing corporate connections and strong networking CO5: To make our students industry-ready. CO6: To develop leadership, analytical skills
7	Course Description	The university offers a Faculty-Student Industry Connect (FSIC) course for the holistic development and empowerment of students and faculties to gain more practical insights and exposure to the industry. FSIC will support the curriculum by amplifying, supplementing, and filling in the gaps related to industry exposure, if any. In addition, FSIC will help students and faculty to enrich their knowledge and skills about the various practices of the industry by making industry visits, working on live projects with the industry, and solving the real-time problems of the industry.
8	Outline syllabus	

Evaluation Scheme:

The evaluation scheme of the FSIC course will be as follows:

Continuous Evaluation (CE)	Industry Visit Report	Viva - Voce	Total
80 %	10 %	10 %	100 %

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	-	-
CO2	2	3	2	3	2	3	2	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
CO6	3	3	2	3	3	2	3	3	-	2
Avg PO	2.67	2.83	2.33	3.00	2.67	2.50	2.50	2.83	3.00	2.00

School		**Sharda School of Allied Health Sciences**	
Programme		**Master of Physiotherapy**	
Branch(Neurology)		Semester: III	
1	Course Code	**CCU 108**	
2	Course Title	Community Connect	
3	Credits	2	
4	Contact Hours (L-T-P)	0-0-4	
	Course Status	Compulsory	
5	Course Objective	1. The objective of assigning the project related to community work is to expose our students to different social issues faced by the people in different sections of society. 2. This type of project work will help the students to develop better understanding of problems of people living in disadvantage position in the society, may be socially, medically, economically, or otherwise. 3. This type of live project work will help our students to connect their class-room learning with practical issues/problems in the society.	
6	Course Outcomes	Students will be able to: CO1: Students develop awareness of the social, health, and environmental challenges faced by the community C02: Students are more appreciative of socio-economic realities beyond textbooks and classrooms CO3: Students learn to apply their knowledge through research, awareness creation, and services for community benefit CO4: Students are able to carry out community-based projects with sincerity, teamwork and timely delivery CO5: Students learn to respectfully engage with communities with purposive intent to contribute to society and sustainable development C06: Students are able to document and present their community project findings in an academically robust manner	
7	Course Description	In Community Connect projects, students will learn how to identify problems of rural and underprivileged communities by conducting surveys, or will help the communities by providing services or solutions for the issues faced by them.	
8	Outline syllabus		CO Mapping
	Unit 1	Team/Group formation and Project Assignment. Problem Definition & Finalizing the problem statement, Resource requirement, if any.	CO1, CO2
	Unit 2	Develop a useful questionnaire or service to the community that will aid in achieving the objectives of the project.	CO2, CO3. CO4
	Unit 3	Learn how to interact with the community members, whether in survey or service-based project – to help develop a more open mindset in the students.	CO3, CO4, CO5
	Unit 4	Analysis of survey data and/or impact on the community members.	CO3, CO4

	Unit 5	Demonstrate and justify their findings in light of the data they have gathered, or show the benefits to the community of the actions they have taken.		CO4, CO5, CO6
	Mode of examination	Practical /Viva		
	Weight age Distribution	CA	ESE	
		60%	40%	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	3	1	-	-
CO2	3	3	3	1	1	2	2	3	-	-
CO3	3	3	2	3	3	3	3	1	2	2
CO4	2	2	2	-	1	-	-	3	3	3
CO5	1	1	2	3	3	2	2	3	3	3
CO6	1	1	1	2	2	3	3	3	3	3
Avg PO	2.17	2.17	2.17	2.40	2.00	2.40	2.60	2.33	2.75	2.75

MPT (Neurology)-IV Semester

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2024-25** **IV Semester**	
1.	Course Code	MPT 260	
2.	Course Title	Physiotherapy in Neurological Conditions-II (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
5	Course Type	Compulsory	
6.	Course Objective	To provide the knowledge about medical and physiotherapy assessment as well as management of various neurological conditions.	
7.	Course Outcomes	CO1: Remembering the etiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the nervous system. CO2: Understanding the basic concepts of assessment of various neurological diseases/disorders. CO3: Analyzing the techniques of evaluation of neurological conditions. CO4: Applying the principles of physiotherapy management in planning a comprehensive neurological rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for physiotherapy management of neurological conditions. CO6: Creating a customised neurological rehabilitation Programme for specific conditions.	
8.	Course Description	This course aims at providing knowledge to the students about the medical, surgical and physiotherapy methods of assessment and management of various neurological conditions.	
9.	Outline Syllabus	Introduction, etiology, Path physiology, Clinical presentation, conservative and surgical management, complications, PT assessment and PT Management of the following conditions:	CO Mapping
+	**Unit 1**	**Neurological Conditions-I**	
	A	Spinal Cord Injury	CO1, CO2, CO3, CO4, CO5, CO6
	B	Tumors of Spinal cord	CO1, CO2, CO3, CO4, CO5, CO6
	C	Motor Neuron Disease	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 2	**Neurological Conditions-II**	
	A	Multiple Sclerosis	CO1, CO2, CO3, CO4, CO5, CO6
	B	Parkinson's Disease	CO1, CO2, CO3, CO4, CO5, CO6
	C	Other Movement disorders-Cerebellar Ataxia, Sensory Ataxia, Chorea, Athetosis, Tics, Dystonia.	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 3	**Neurological Conditions-III**	
	A	Disorders of cranial nerves	CO1, CO2, CO3, CO4, CO5, CO6
	B	Disorders of Peripheral nerves	CO1, CO2, CO3, CO4, CO5, CO6

	C	Disorders of muscles and Neuromuscular Junction- Myasthenia Gravis, Muscular Dystrophy			CO1, CO2, CO3, CO4, CO5, CO6
	Unit 4	**Neurological Conditions-IV**			
	A	Vestibular disorders.			CO1, CO2, CO3, CO4, CO5, CO6
	B	ANS disorders			CO1, CO2, CO3, CO4, CO5, CO6
	C	Psychosocial and community based rehabilitation in neurological disorder			CO1, CO2, CO3, CO4, CO5, CO6
	Unit 5	**Neurological surgeries**			
	A	Surgeries for disc disorders, Surgical repair of peripheral Nerves			CO1, CO2, CO3, CO4, CO5, CO6
	B	Decompression surgeries for spinal cord			CO1, CO2, CO3, CO4, CO5, CO6
	C	Muscle lengthening/ Release, Surgeries for Spasticity management.			CO1, CO2, CO3, CO4, CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Physical Rehabilitation by Susan B, O' Sullivan, Thomas J.Schmitz. 2. Neurological Rehabilitation: Umphred, Darcy,A			
	Other References	1. Neurological Rehabilitation: Taly,A.B. 2. Stroke Therapy: Fisher,Marc. 3. Clinical neurophysiology: U.K.Misra,J.Kalita. 4. Bickerstaff's neurological examination in clinicalpractice. 5. Neurological differential diagnosis – JohnPatten.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	-
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.50	2.50	1.75	2.00	2.83	2.83	1.25

School: SSAHS Programme: MPT Branch: Neurology		Batch: 2023-2025 Current Academic Year: 2024-25 IV Semester	
1.	Course Code	MPT 261	
2.	Course Title	Physiotherapy in Neurological Conditions-II (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	To provide the knowledge about medical and physiotherapy assessment as well as management of various neurological conditions.	
6.	Course Outcomes	CO1: Remembering the etiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the nervous system. CO2: Understanding the basic concepts of assessment of various neurological diseases/disorders. CO3: Analyzing the techniques of evaluation of neurological conditions. CO4: Applying the principles of physiotherapy management in planning a comprehensive neurological rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for physiotherapy management of neurological conditions. CO6: Creating a customised neurological rehabilitation Programme for specific conditions.	
7.	Course Description	This course aims at providing knowledge to the students about the medical, surgical and physiotherapy methods of assessment and management of various neurological conditions.	
8.	Outline Syllabus	Introduction, etiology, Path physiology, Clinical presentation, conservative and surgical management, complications, PT assessment and PT Management of the following conditions:	CO Mapping
	Unit 1	**Neurological Conditions-I**	
	A	To asses and rehabilitate spinal Cord Injury	CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate tumors of Spinal cord	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 2	**Neurological Conditions-II**	
	A	To assess and rehabilitate Multiple Sclerosis	CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate movement disorders: Parkinson's Disease, Cerebellar Ataxia, Sensory Ataxia,Chorea, Athetosis, Tics, Dystonia.	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 3	**Neurological Conditions-III**	
	A	To assess and rehabilitate disorders of cranial nerves	CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate disorders of Peripheral nerves and muscles	CO1, CO2, CO3, CO4, CO5, CO6
	Unit 4	**Neurological Conditions-IV**	
	A	To assess and rehabilitate Vestibular disorders	CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate ANS disorders	CO1, CO2, CO3, CO4, CO5, CO6

	Unit 5				
	A	To assess and rehabilitate for surgeries of disc disorders, Surgical repair of peripheral Nerves			CO1, CO2, CO3, CO4, CO5, CO6
	B	To assess and rehabilitate Decompression surgeries for spinal cord			CO1, CO2, CO3, CO4, CO5, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Physical Rehabilitation by Susan B, O' Sullivan, Thomas J.Schmitz. 2. Neurological Rehabilitation: Umphred, Darcy,A			
	Other References	1. Neurological Rehabilitation: Taly,A.B. 2. Stroke Therapy: Fisher,Marc. 3. Clinical neurophysiology: U.K.Misra,J.Kalita. 4. Bickerstaff's neurological examination in clinicalpractice. 5. Neurological differential diagnosis – JohnPatten.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.50	2.50	1.75	2.00	2.83	2.83	1.25

School: SSAHS **Programme: MPT** **Branch: Neurology**		**Batch: 2023-2025** **Current Academic Year: 2024-25** **IV Semester**			
1.	Course Code	MPT 262			
2.	Course Title	Dissertation			
3.	Credits	18			
4.	Contact Hours (L-T-P)	0-0-36			
	Course Type	Compulsory			
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 types of research CO2: Understand about formulation of research protocol CO3: Apply research Methodology and skills to complete the research dissertation CO4: Analyse the data CO5: Evaluate the methods of scientific literature review and writing. CO6: Implement evidence based practice for research			
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.			
8.	Outline Syllabus				CO Mapping
	Unit 1	Introduction of subject/literature search			CO1, CO6
	Unit 2	Concept building and study design			CO2, CO6
	Unit 3	Experimentation			CO3, CO6
	Unit 4	Data collection, result analysis and discussion			CO4, CO6
	Unit 5	Report Writing			CO5, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Physical Rehabilitation by Susan B, O' Sullivan, Thomas J.Schmitz. 2. Neurological Rehabilitation: Umphred, Darcy,A			
	Other References	3. Neurological Rehabilitation: Taly,A.B. 4. Stroke Therapy: Fisher,Marc. 5. Clinical neurophysiology: U.K.Misra,J.Kalita. 6. Bickerstaff's neurological examination in clinicalpractice. 7. Neurological differential diagnosis – JohnPatten.			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	3	2	2	2	3
CO2	2	2	3	2	2	3	2	2	2	3
CO3	2	3	3	3	3	3	2	1	2	3
CO4	2	2	2	2	2	3	2	1	1	3
CO5	3	3	3	3	3	3	2	2	1	3
CO6	2	3	2	2	1	3	2	3	2	3
Avg PO	2.17	2.33	2.50	2.33	2.17	3.00	2.00	1.83	1.67	3.00

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2024-25**	
Branch: Neurology		Semester: IV	
1	Course Code	MPT 263	
2	Course Title	Clinical Outcome and follow up in Neurological Conditions	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-8	
	Course Type	SEC	
5	Course Objective	1. The students will be able to assess different condition due to neurological dysfunction, set treatment goals and apply their skill. 2. Students will understand the role exercise therapy and use of different neurological scales for outcome measures. 3. In addition, the student will be able to diagnose the conditions	
6	Course Outcomes	CO1: Be able to develop research based assessment skills to implement timely and appropriate physiotherapy assessment tools/techniques to ensure a holistic approach to patient evaluation in order to prioritize patient's problems. CO2: Be able to select timely research based physiotherapeutic interventions to reduce morbidity and physiotherapy management strategies, suitable for the patients' problems and indicator conditions based on the best available evidence based on different neurological scales and measure the outcomes. CO3: Implement appropriate research based neuro-physiotherapeutic approaches, electrotherapeutic modalities, joint and soft tissue mobilizations and ergonomic advice for neuromuscular. CO4:Be able to make diagnosis and differential diagnosis of different neurological conditions CO5: Be able to develop behavioural skills and humanitarian approach while communicating with patients, relatives, society and co-professionals, to promote individual and community health. CO6: To formulate exercise plan after follow up. .	
7	Course Description	The subject serves to integrate the knowledge gained by the students in neurology and neurosurgery with skills to apply these in clinical situations of dysfunction and neurological pathology. The student will be able to identify disabilities due to neurological dysfunction, plan and set treatment goals and apply the skills gained in these clinical situations to restore neurological function and measure the outcomes of treatment and predict the prognosis of patient.	
8	Outline syllabus		CO Mapping
	Unit 1	Clinical Neurological Examination	
	A	Required materials for examination, Chief complaints, History taking, Higher mental function, Balance and coordination examination	CO1, CO2

	B	Special tests–Romberg's, Kernig's sign, Brudenzki sign, Tinels's sign , Slump test, Lehermitte's sign, Bells Phenomenon, Gower's sign, Sunset sign ,Battle's sign, Glabellar tap sign, etc	CO1,CO2
	C	Assessment tools and Scales– Modified Ashworth scale, Berg balance scale, FIM, Barthel index, Glasgow coma scale , Mini mental state examination, Rancho Los Amigos Scale for Head injury, APGAR score, ASIA scale, Reflex Grading. Differential diagnosis.	CO1,CO2
	Unit 2	Neurophysiological Techniques outcomes	
	A	To measures the outcomes of following techniques- Neurophysiological techniques: NDT ,PNF, Vojta therapy	CO1, CO3
	B	Rood's Sensorimotor Approach, Sensory Integration Approach, Brunnstorm's movement therapy, Motor relearning Programme.	CO1, CO3
	C	Contemporary task oriented approach, Muscle re-education approach and Constraint induced movement therapy.	CO1, CO3
	Unit 3	Paediatric Neurology tests and scales.	
	A	Cranial nerve examination	CO2,CO4
	B	Motor and Sensory examination, Reflex testing, differential Diagnosis,Balance and Coordination examination, Gait analysis,Functional analysis, List of Problems and Complications, short and Long Term goals	CO2,CO4
	C	Management of systemic complications, Management of Mechanical Complications	CO2,CO4
	Unit 4	Evaluation and Management and differential diagnosis.	
	A	Differential diagnosis , and scales for following condition- Brain and Spinal Cord Disorders: Cerebrovascular Accident ,Meningitis, Encephalitis ,Head Injury, Brain Tumors ,.	CO1,CO4
	B	Perceptual disorders , Amyotrophic lateral sclerosis,and Multiple sclerosis Short and Long Term goals, Management of systemic complications, Management of Mechanical Complications,	CO1,CO4,CO5
	C	Peripheral Nerve Injuries and Disorders : Long thoracic nerve palsy, ,sciatic nerve palsy ,Tibial nerve palsy, Common peroneal nerve palsy, Femoral nerve palsy, Obturator nerve palsy, and Pudendal nerve palsy.	CO1,CO4,CO5
	Unit 5	Surgical management and outcome measures	
	A	Different scales and tests for following surgical conditions Craniotomy, stereotactic surgery	CO3, CO4, CO6

	B	Preand post-surgical assessment and treatment following conditions-Spinal disc herniation, Spinal stenosis			CO3,CO4,CO6
	C	Spinal cord trauma ,Head trauma, Braintumors, Tumors of the spine, Spinal cord and peripheral nerves			CO3,CO4,CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cash's textbook of neurology for, physiotherapists -Dowani - J P Brothers. 2. Adult Hemiplegia - Evaluation and treatment -Bobath - Oxford ButterworthHeinm an 3. Neurological Rehabilitation - CarrandShepherd - ButterworthHeinrnan 4. Tetraplegia and paraplegia - A guide for physiotherapist-BromleyChurchill Livingstone. 5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone. 6. Neurological Rehabilitation - Urmpherd - Mosby. 7. Geriatric physical therapy- Gucciona- Mosby			
	Other References	8. Motor assessment of Developing Infant - PiperandDarrah - W B. Saunders. 9. Pediatric phySical therapy- Teckling Lippincott 10. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London. 11. Aging the Health care Challenge - Levis- FADavis. 12. Physiotherapy in Pediatrics - Shepherd -Butterworth Heinrnan			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

MPT (Orthopaedics)-II Semester

School: SSAHS Programme: MPTBranch: Orthopaedics		**Batch: 2023-2025** **Current Academic Year: 2023-2024** **II Semester**	
1.	Course Code	MPT 134	
2.	Course Title	Musculoskeletal Biomechanics	
3.	Credits	3	
4.	Contact Hours (L-T-P)	3-0-0	
	Course Type	Compulsory	
5	Course Objective	The course should enable the student to acquire in depth knowledge in understanding the biomechanics and kinesiology.	
6.	Course Outcomes	On successful completion of this Programme, students should be able to CO1:Recall the understanding of basics of mechanics for muscle work CO2:Understand the structure and function of musculoskeletal system CO3: Apply the mechanics of musculoskeletal system CO4:Analyse biomechanics of upper limb, lower limb and spine CO5:Evaluate the patho mechanics associated with abnormal posture and gait CO6: Analyse the kinetics and kinematics of gait and formulate corrections for it	
7.	Course Description	The course covers the understanding of Biomechanics and kinesiology of body movement	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Introduction, Joint structure, review of fundamentals of biomechanics.**	
	A	Forces, Force of gravity and COG, Stability, Friction, Moments, Newton's laws, Types of motion, Magnitude of motion,	CO1,CO2
	B	Equilibrium: static and dynamic, Simple Machines: Levers, pulleys and Segmental dimensions, Load: Load sharing and load transfer	CO1, CO2
	C	Muscle work, Muscle mechanical power, Causes of inefficient movement	CO1,CO2
	Unit 2	**Structure and function of the various components of musculoskeletal System**	
	A	Bone structure, blood supply, and growth; Cartilage, Ligament, Muscle structure,functional and classification.Origin,insertion,action and nerve supply,Major nerves Course, branches and distribution. Implication of nerve injuries.	CO3,CO1
	B	Joints–classification, structure of joints, movements, range, limiting factors,stability, blood supply, nerve supply, its applied anatomy.	CO3,CO1
	C	Spine – Vertebral column development, structure, joints, muscles of back, applied and functional anatomy, brief description of Upper and lower extremity, abdomen, pelvis, head, neck and brain.	CO3,CO1
	Unit 3	**Tissue Mechanics**	
	A	Mechanics of Bone, tendon, ligament, Cartilage.	CO3,CO4

	B	Structure and composition of muscle. Physiology of musculoskeletal systems,	CO3,CO4
		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 and Tendon mechanics: -Structure and composition, Mechanical properties and physiological properties, Muscle tendon properties	
	C	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,CO4
	Unit 4	**Regional Biomechanics**	
	A	Biomechanics of shoulder complex, elbow complex, wrist and hand complex.	CO4,CO5, CO6
	B	Biomechanics of pelvic, hip, knee, ankle and foot complex	CO4, CO5, CO6
	C	Biomechanics of spine.	CO4,CO5, CO6
	Unit 5	**Gait and Posture**	
	A	Gait- Kinetics and kinematic analysis, pathological gait	CO6,CO2
	B	Analysis of running, Stair climbing ,Changes in gait following various surgeries/ diseases/disorders	CO6,CO2
	C	Posture analysis, components of good posture	CO6,CO2
	Mode of Examination	Theory	
	Weightage Distribution	CA: 25 / MSE: 25 / ESE: 50	
	Textbook/s*	1. Clinical Biomechanics of the spine: White, Augustus 2. Exercise Physiology by Mc Ardle, Katch and 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	1. Pathology implications for Physical Therapists by Catherine C. Goodman 2. Hutchison's Clinical Methods: An Integrated Approach to Clinical Practice, 23e(Hutchinson's clinical methods) by Michael Glynn MA , William M Drake	

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	-	-	1	-	1	3	3	1
CO2	3	2	-	-	1	-	1	3	3	1
CO3	2	2	1	2	1	1	1	2	2	2
CO4	3	2	3	3	3	2	2	3	2	2
CO5	2	2	2	2	2	1	2	3	2	1
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.67	2.17	2.25	2.50	1.67	1.75	1.50	2.83	2.50	1.67

School: SSAHS Programme: MPT Branch: Orthopaedics		**Batch: 2023-2025** **Current Academic Year: 2023-2024** **II Semester**	
1.	Course Code	MPT 135	
2.	Course Title	Musculoskeletal Physiotherapy Assessment (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	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 rationalize the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6.	Course Outcomes	CO1. To understand the basic musculoskeletal assessment and tests. CO2. To classify and diagnose the musculoskeletal conditions according to recent methods of assessment CO3. To implement and interpret the assessment for biomechanical deviations. CO4. To analyze the assessment using the various scales and tests CO5: To evaluate the assessment to formulate the final diagnosis CO6: To formulate the final diagnosis according to all the assessment points	
7.	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Musculoskeletal 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 Musculoskeletal 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, CO3, CO4
	C	Evaluation methods, Special tests and Scales used in musculoskeletal disorders	CO1, CO4, CO6
	Unit 2	**Recent methods for assessment**	
	A	Recent methods Application	CO2, CO4
	B	Electrodiagnosis: Use of Electromyography and Evoked potential Studies	CO3, CO4
	C	Assessment of locomotor impairments, disabilities and disability evaluation.	CO1, CO4
	Unit 3	**Balance, Posture and Gait assessment**	

	A	Balance assessment			CO3, CO5,CO6
	B	Postural assessment methods and common deviations			CO4,
		From the normal ,examination of movements			CO5, CO6
	C	Clinical Gait assessment (observational methods and EMG gait analysis)			CO4, CO5
	Unit 4	**Basics of principle Investigations**			
	A	Pain assessment and scales for evaluation in acute and chronic pain			CO2, CO3
	B	Clinical assessment and rationale of laboratory investigations along with differential diagnoses.			CO4, CO5
	C	Clinical decision making in Electrotherapeutics.			CO2, CO6
	Unit 5	**Functional assessment**			
	A	Functional assessmen (Hand function, Gait, Posture, ADL, Occupational work)			CO3, CO4
	B	X-Ray, MRI, CT report reading and analysis			CO1, CO2
	C	Physical Disability evaluation in detail. ICF classification			CO3, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Orthopaedic physical assessment by David J.Magee Orthopaedic Rehabilitation by Brokman. 2.Essentials of Orthopaedic for physiotherapists by Ebnezar 3.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	-	2	1	2	3	2	1
CO2	2	3	2	2	2	-	1	2	2	1
CO3	2	2	3	3	2	-	2	3	3	2
CO4	3	3	2	3	3	-	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.67	2.83	2.50	2.80	2.33	2.00	2.17	2.83	2.67	1.83

School: SSAHS **Programme: MPT** **Branch: Orthopaedics**		**Batch: 2023-2025** **Current Academic Year: 2023-2024** **II Semester**	
1.	Course Code	MPT 136	
2.	Course Title	Advanced Physiotherapeutics in Musculoskeletal Conditions (Theory)	
3.	Hours/Week	3	
4.	Contact Hours (L-T-P)	3-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in Musculoskeletal Physiotherapy. 2. To analyse and classify various Musculoskeletal Disorders and its management. 3. Compare and contrast the outcome of various physiotherapy treatment approaches	
6.	Course Outcomes	CO1. To gain knowledge of various techniques of Manual Therapy. CO2. To understand the recent techniques used in musculoskeletal conditions CO3. To apply recent techniques for injury prevention. CO4: To analyze the use of different approaches for musculoskeletal conditions CO5: To evaluate the use of different aids for assessment and rehabilitation CO6: To formulate the final protocol according to all the advanced techniques	
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	**Introduction to manual therapy**	
	A	Manual therapies:different schools of thought	CO1,CO3,
	B	Soft tissue manipulations and mobilizations	CO1, CO3
	C	Neural mobilization	CO1, CO3
	Unit 2	**Advanced Physiotherapy Techniques**	
	A	Joint manipulation–Peripheral joints and vertebral joints.	CO2, CO5
	B	Mobilization techniques like Cyriax, Maitland, McKenzie, Kaltenborn, Mulligan	CO2, CO5
	C	Myofascial release technique, Muscle energy technique and Neuromuscular taping technique	CO2, CO5
	Unit 3	**Injury prevention and Exercise Prescription in sports**	
	A	Analysis and classification of sports and sports specific injuries and its management	CO3, CO6
	B	Principles of injury prevention, environmental modifications	CO3, CO6
	C	Exercise planning and prescription, Recent advances in Musculoskeletal disorders and Sports Physiotherapy	CO3, CO6
	Unit 4	**EMG,Gait and relaxation Training methods**	
	A	Electrodiagnosis: Electromyography and evoked potential studies	CO4, CO6
	B	Gait Training, Biofeedback, Hydrotherapy, Patient and Family education, Relaxation Techniques, massage therapy	CO4, CO6

	C	Pain (neurobiology, various theories, modulation and management of			CO4, CO6
		pain)			
	Unit 5	**External Aids**			
	A	Wheelchair skills-Basic and Advanced			CO5,CO6
	B	Prosthetics and Orthotics			CO5, CO6
	C	External aids, appliances, adaptive self- help devices, prescription, Biomechanical compatibility, checkout and training.			CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Management Principles for Physiotherapist by Nosse, Lorry 2.Myofascial and pain dysfunction by Travell, Willimans and Wilkins, Baltimore1983 3. Vertebral Manipulation by Matiland G.D.Boston, Butterworth andCo. Boston,1997 4. Peripheral Manipulation Matiland G.D.Boston, ButterworthandCo.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	2	2	2	1	2	2	3	-
CO2	3	3	3	2	3	3	2	3	2	-
CO3	2	3	2	3	3	2	2	3	3	2
CO4	3	2	3	3	3	2	2	3	3	1
CO5	2	2	2	2	3	1	3	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.67	2.67	2.50	2.50	2.67	2.00	2.17	2.83	2.83	2.00

School: SSAHS **Programme: MPT** **Branch: Orthopaedics**		**Batch: 2023-2025** **Current Academic Year: 2023-2024** **II Semester**	
1.	Course Code	MPT 137	
2.	Course Title	Musculoskeletal Physiotherapy Assessment (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	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. To understand the basic musculoskeletal assessment and tests. CO2. To classify and diagnose the musculoskeletal conditions according to recent methods of assessment CO3. To implement and interpret the assessment for biomechanical deviations. CO4. To analyze the assessment using the various scales and tests CO5: To evaluate the assessment to formulate the final diagnosis CO6: To formulate the final diagnosis according to all the assessment points	
7.	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Musculoskeletal 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 Musculoskeletal and various other dysfunctions.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Musculoskeletal assessment**	CO1, CO2
	A	To review musculoskeletal assessment including sensory, motor assessment, Assessment of Tone, flexibility, tightness of musculoskeletal tissues,-Muscle	CO1, CO3, CO4
	B	To use evaluation methods, special tests and scales for musculoskeletal disorders	CO1, CO4, CO6
	Unit 2	**Recent methods for assessment**	
	A	To determine the use of electrodiagnosis including electromyography and evoked potential studies	CO2, CO3, CO4
	B	To assess locomotor impairments, disabilities and disability evaluation.	CO1, CO4
	Unit 3	**Balance, Posture and Gait assessment**	
	A	To assess balance, posture and their common deviations	CO3, CO4, CO5,CO6
	B	To perform clinical gait assessment (observational methods and EMG gait analysis)	CO4, CO5
	Unit 4	**Basics of principle Investigations**	
	A	To perform acute and chronic pain assessment using different scales	CO2,CO3,CO6
	B	To make a differential diagnosis on basis of clinical assessment and laboratory investigations	CO2, CO4,CO5,CO6

	Unit 5	**Functional assessment**			
	A	To perform functional assessment (Hand function, Gait, Posture, ADL, Occupational work)			CO3,CO4,CO6
	B	To analyse the X-Ray, MRI, CT report findings			CO1, CO2, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. OrthopaedicphysicalassessmentbyDavidJ.Magee 2. Orthopaedic Rehabilitation by Brokman 3. Essential of Orthopaedic for physiotherapists by Ebnezar 4. Orthopaedic Physicaltherapy by Donatteli, London Churchill Livingstone			
	Other References				

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	-	2	1	2	3	2	1
CO2	2	3	2	2	2	-	1	2	2	1
CO3	2	2	3	3	2	-	2	3	3	2
CO4	3	3	2	3	3	-	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.67	2.83	2.50	2.80	2.33	2.00	2.17	2.83	2.67	1.83

School: SSAHS **Programme: MPT** **Branch: Orthopaedics**		**Batch: 2023-2025** **Current Academic Year: 2023-2024** **II Semester**			
1.	Course Code	MPT 138			
2.	Course Title	Advanced Physiotherapeutics in Musculoskeletal Conditions (Practical)			
3.	Credits	1			
4.	Contact Hours (L-T-P)	0-0-2			
	Course Type	Compulsory			
5	Course Objective	1. To provide knowledge about various techniques used in musculoskeletal Physiotherapy. 2. To analyse, diagnose and classify various musculoskeletal Disorders and its management. 3. Compare and contrast the outcome of various physiotherapy treatment approaches			
6.	Course Outcomes	CO1. To gain knowledge of various techniques of Manual Therapy. CO2. To understand the recent techniques used in musculoskeletal conditions CO3. To apply recent techniques for injury prvention. CO4: To analyze the use of different approaches for musculoskeletal conditions CO5: To evaluate the use of different aids for assessment and rehabilitation CO6: To formulate the final protocol according to all the advanced techniques.			
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	**Introduction to manual therapy**			
	A	To apply soft tissue manipulations and mobilizations			CO1,CO3, CO6
	B	To apply neural mobilization techniques			CO1, CO3, CO6
	Unit 2	**Advanced Physiotherapy Techniques**			
	A	To perform joint manipulation for Peripheral joints and vertebral joints.			CO2, CO5, CO6
	B	To apply techniques like Cyriax, Maitland, McKenzie, Kaltenborn, Mulligan, Myofascial release technique, Muscle energy technique and Neuromuscular taping			CO2, CO5, CO6
	Unit 3	**Injury prevention and Exercise Prescription in sports**			
	A	To classify sports injuries			CO3, CO6
	B	To plan exercise prescription for sports using principles of injury prevention			CO3, CO6
	Unit 4	**EMG, Gait and relaxation Training methods**			
	A	To perform electrodiagnosis using Electromyography and evoked potential studies			CO4, CO6
	B	To apply the gait training, biofeedback, hydrotherapy, relaxation techniques, massage therapy			CO4, CO6
	Unit 5	**External Aids**			
	A	To apply basic and advanced wheelchair skills			CO5, CO6
	B	To demonstrate the use of prosthetics, orthotics, external aids, appliances using their biomechanical compatibility			CO5, CO6
	Mode of Examination	Practical			
	Weightage	CA	CE	ETE	

	Distribution	25	25	50	
	Textbook/s*	1. Management Principles for Physiotherapist by Nosse, Lorry J 2.Myofascial and pain dysfunction by Travell, Villimans and Wilkins,Baltimore1983 3. VertebralManipulationbyMatilandG.D.Boston,ButterworthandCo.Boston,1997 4. Peripheral Manipulation Matiland G.D.Boston,ButterworthandCo.Boston,1997 5. Hand Rehabilitation by Christine, Churchill, LivingstoneLondon 1995			
	Other References				

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	1	2	2	3	-
CO2	3	3	3	2	3	3	2	3	2	-
CO3	2	3	2	3	3	2	2	3	3	2
CO4	3	2	3	3	3	2	2	3	3	1
CO5	2	2	2	2	3	1	3	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.67	2.67	2.50	2.50	2.67	2.00	2.17	2.83	2.83	2.00

School: SSAHS		**Batch :2023-25**			
Programme: MPT		**Current Academic Year: 2023-24**			
Branch: Orthopaedics		**II Semester**			
1	Course Code	MPT 139			
2	Course Title	Clinical Reasoning in Musculoskeletal conditions-I			
3	Credits	3			
4	Contact Hours (L-T-P)	0-0-6			
	Course Type	Compulsory			
5	Course Objective	The student will be able to understand the concepts of history, diagnosis, and interpretation of clinical reasoning in medical conditions			
6	Course Outcomes	At the end of the course, the student will be able to CO1: To understand the concept of clinical reasoning in musculoskeletal conditions. CO2: To demonstrate the examination and evaluation CO3: To apply the assessment based on the clinical reasoning CO4: To analyze the need and interpretations of differential diagnosis. CO5: To evaluate the clinical reasons for formulating treatment goals. CO6: To formulate a treatment plan based on clinical reasoning.			
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in medical conditions.			
8	Outline syllabus				CO Mapping
	Unit 1	**Introduction to clinical reasoning**			
	A	Background			CO1, CO2
	B	Problem oriented reasoning			CO3, CO4
	C	Clinical reasoning approaches			CO4, CO5
	Unit 2	Assessment and Evaluation			
	A	History Taking			CO2, CO4
	B	Observation			CO3, CO5
	C	Evaluation			CO4, CO5
	Unit 3	Examination			
	A	Special Test			CO1, CO2
	B	Clinical Criterias			CO3, CO4
	C	Guidelines			CO4, CO5
	Unit 4	**Diagnosis and clinical decision making**			
	A	Differential Diagnosis			CO2, CO4, CO6
	B	Functional diagnosis			CO3, CO5, CO6
	C	Clinical Presentations			CO4, CO5, CO6
	Unit 5	Implementations for goals planning			
	A	Clinical reasoning for short term and long term goals			CO1, CO4, CO6
	B	Patient and family education.			CO2, CO5, CO6
	C	Case presentation and discussion			CO1, CO5, CO6
	Mode of examination	Practical			
	Weight age Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	Clinical Practices			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	1	2	-
CO2	2	3	2	3	2	-	2	3	3	2
CO3	2	2	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	2	3	2	3	2
CO5	3	3	2	3	3	2	3	2	3	2
CO6	3	2	3	3	2	2	3	3	3	2
Avg PO	2.67	2.67	2.50	2.83	2.50	2.00	2.67	2.33	2.67	2.00

School: SSAHS		**Batch :2023-25**			
Programme: MPT		**Current Academic Year: 2023-24**			
Branch: Orthopaedics		**II Semester**			
1	Course Code	MPT 140			
2	Course Title	Clinical skills in Musculoskeletal Physiotherapy -I			
3	Credits	3			
4	Contact Hours (L-T-P)	0-0-6			
	Course Type	Compulsory			
5	Course Objective	The student will be able to understand the concepts of implementing, planning and strategically applying the clinical skills in medical conditions.			
6	Course Outcomes	At the end of the course, the student will be able to CO1: Acquire knowledge regarding the skill for planning the rehabilitation CO2: Understand the application of the various manual approaches. CO3: Demonstrate and apply the exercise prescription for the medical condition. CO4: Analyze the progression and duration of treatment CO5: Evaluate the advances done for treatment CO6: To create and develop the complete rehabilitation for the patient.			
7	Course Description	The course is designed to develop the understanding for the concepts of implementing, planning and strategically applying the clinical skills in medical conditions.			
8	Outline syllabus				CO Mapping
	Unit 1	Rehabilitation planning			
	A	Importance of planning			CO1, CO2
	B	Goals setting			CO3, CO4
	C	Realistic approach towards the goals			CO4, CO5
	Unit 2	Application of manual therapies			
	A	Selection of methods			CO2, CO4
	B	Interpretation of diagnosis and skills to be applied			CO3, CO5
	C	Level of application			CO4, CO5
	Unit 3	Exercise Prescription			
	A	Corelation with previous treatments, Impact of psychological and sociological factors			CO1, CO2
	B	Hospital protocols and home protocols			CO3, CO4
	C	Holistic approach			CO4, CO5
	Unit 4	**Progressions and Duration**			
	A	Progression of treatment : age, condition, and other factors			CO2, CO4,CO6
	B	Duration of treatment: session duration and number of sessions.			CO3, CO5,CO6
	C	Lifestyle modifications			CO4, CO5,CO6
	Unit 5	**Seminars**			
	A	Case discussions			CO1, CO4
	B	Recent advance treatments for the conditions.			CO2, CO5
	C	Clinical applications			CO1, CO5
	Mode of examination	Practical			
		CA	CE	ESE	

	Weightage Distribution	25	25	50	
	Text book/s*	1.Myofascial and pain dysfunction by Travell, Williams andWilkins,Baltimore1983 2. Vertebral Manipulation byMatilandG.D.Boston,ButterworthandCo.Bost on,1997 3. Peripheral Manipulation Matiland G.D.Boston,ButterworthandCo.Boston,1997			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	1	2	-
CO2	2	3	2	3	2	-	2	3	3	2
CO3	2	2	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	2	3	2	3	2
CO5	3	3	2	3	3	2	3	2	3	2
CO6	3	2	3	3	2	2	3	3	3	2
Avg PO	2.67	2.67	2.50	2.83	2.50	2.00	2.67	2.33	2.67	2.00

School: SSAHS Programme: MPTBranch: Orthopaedics		Batch: 2023-2025 Current Academic Year: 2024-25 III Semester	
1.	Course Code	MPT 245	
2.	Course Title	Physiotherapy in Musculoskeletal Conditions-I (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology,clinical presentation and physiotherapy management of general musculoskeletal disorders. 2. To provide knowledge about epidemiology, pathophysiology and clinical conditions affecting various joints of body. 3. To educate students about physiotherapy management for various musculoskeletal disorders.	
6.	Course Outcomes	CO1.Understanding about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. CO2.Understanding about epidemiology, pathophysiology and clinical conditions affecting various joints of body CO3.Analyzing the physiotherapy techniques to manage various musculoskeletal disorders. CO4:Applying the principles of physiotherapy management in planning a comprehensive rehabilitation Programme CO5:Evaluating the available treatment techniques and evidence based practice for physiotherapy management of musculoskeletal conditions. CO6: Creating a customised rehabilitation for various musculoskeletal 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	Introduction, etiology, Pathophysiology, Clinical presentation, conservative and surgical management, complications, physiotherapy assessment and physiotherapy management of the following conditions:	CO Mapping
	Unit 1	**Inflammatory disorders**	
	A	Physiotherapy management for Congenital malformations	CO1, CO3, CO6
	B	Physiotherapy management in Rheumatic disorders:-Rheumatoid arthritis, Ankylosing Spondylosis, Reiter's disease, Polymyalgia rheumatica,Psoriasis	CO1, CO3, CO6
	C	Physiotherapy management for Infections of musculoskeletal system, Acute,Chronic	CO1, CO3, CO6
	Unit 2	**Metabolic and neuromuscular disorders**	
	A	Physiotherapy management for metabolic and endocrine disorders, Calcium metabolism, Osteoporosis, Osteomalacia and ricket, Hyperparathyrodism	CO2, CO4, CO6
	B	Physiotherapy management in tumors of the musculoskeletal system, Classification, Benign,Malignant	CO2, CO4, CO6
	C	Physiotherapy management in neuromuscular disorders,	CO2, CO4, CO6

		Poliomyelitis, Cerebralpalsy, Arthrogryposis multiplex Congenita, Muscular dystrophy, Osteoarthritis and crystal deposition diseases			
	Unit 3	**Principles of Investigations**			
	A	Investigations, Orientation and Introduction, physical basis, normal result and common abnormal response of the procedures done for musculoskeletal conditions (inbrief)			CO3, CO5, CO6
	B	Interpretation of X- ray Computerized Tomography, Magnetic Resonance Imaging			CO3, CO5, CO6
	C	Interpretation of Bone Scan, Laboratory tests, FNAC, Bone biopsy			CO3, CO5, CO6
	Unit 4	**Upper limb and spine conditions**			
	A	Physiotherapy management in shoulder, rotator cuff lesions, Instability, Rheumatoid disease of shoulder,Tuberculosis. The Elbow, Tennis elbow, Golfer's elbow, Myositis ossificans			CO3, CO4, CO6
	B	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			CO3, CO4, CO6
	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 and listhesis, Scoliosis and kyphosis, Tuberculosis, Musculoskeletal causes of low backpain			CO3, CO4, CO6
	Unit 5	**Lower limb conditions**			
	A	Physiotherapy management in Avascular necrosis of Femoral head, Osteoarthritis; Knee, Osteoarthritis, Meniscal/ligament injuries, Genu valgum/ varum			CO4, CO5, CO6
	B	Physiotherapy management in Ankle and foot, Metatarsalgia, Flatfoot, Cavus foot, Hallux valgus, CTEV, Ankle sprains			CO4, CO5, CO6
	C	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			CO4, CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/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. MusculoskeletalTrauma	
		3 Textbook of Orthopaedics andTrauma 4. Watson Jones fracture joint and injuries	

CO1	3	3	3	3	3	-	3	2	3	1
CO2	3	3	3	3	3	-	2	3	3	2
CO3	3	3	2	3	3	2	3	3	3	2
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	-	3	3	2	2	2	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.83	2.80	2.83	3.00	2.67	2.25	2.50	2.83	3.00	2.00

School: SSAHS Programme: MPT Branch: Orthopaedics		Batch: 2023-2025 Current Academic Year: 2024-25 III Semester	
1	Course Code	MPT 246	
2	Course Title	Musculoskeletal Rehabilitation	
3	Credits	4	
4	Contact Hours (L-T-P)	4-0-0	
	Course Type	CC	
5	Course Objective	1. The student will be able to demonstrate knowledge in planning the musculoskeletal rehabilitation. 2. The student will be able to implement the treatment in clinical setup fulfill with 75% accuracy the following objectives of the course.	
6	Course Outcomes	CO1: To identify the appropriate rehabilitation process for musculoskeletal conditions CO2: To understand the basic principles of rehabilitation procedure and implement on the patients CO3: To understand the different school of thoughts for rehabilitation. CO4: To enable the student to plan the rehabilitation course with goal setting CO5: To apply the rehabilitation plan for surgical conditions. CO6: To formulate a rehabilitation protocol for musculoskeletal conditions	
7	Course Description	It is designed to provide students with the knowledge to plan andimplement the rehabilitation for musculoskeletal conditions	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to Rehabilitation**	
	A	Rehabilitation Definition and importance	CO1, O2
	B	Principles of rehabilitation	CO1, CO2
	C	Factors in planning	CO1, CO2
	Unit 2	**Rehabilitation Process**	
	A	Planning, Goal setting, Patient education	CO1, CO2 CO3
	B	Different school of manual therapy in rehabilitation.	CO1, CO3, CO4
	C	Importance of lifestyle modification	CO2,CO3
	Unit 3	Rehabilitation for upper limb	
	A	Fracture and dislocation	CO4, CO5, CO6
	B	Regional conditions and injury	CO4, CO5, CO6
	C	Surgical conditions	CO4, CO5, CO6
	Unit 4	Rehabilitation for spine	CO4, CO5, CO6
	A	Fracture and dislocation	CO4, CO5, CO6
	B	Regional conditions and injury	CO4, CO5, CO6
	C	Surgical conditions	CO4, CO5, CO6

	Unit 5	Rehabilitation for Lower Limb			CO4, CO5, CO6
	A	Fracture and dislocation			CO4, CO5, CO6
	B	Regional conditions and injury			CO4, CO5, CO6
	C	Surgical conditions			CO4, CO5, CO6
	Mode of examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Text book/s*	1. B D Chaurasia's Human Anatomy. 2. Inderbir Singh- Textbook of Anatomy. 3. Textbook of Anatomy with color Atlas-Inderbir Singh. 4. Richard S. Snell- Clinical Anatomy.			
	Other References	1. Kieth L Moorie, Clinically OrientedAnatomy. 2. A K Datta, Essentials Of Human Anatomy:Thorax And Abdomen 3. Inderbir Singh, Human Osteology.			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO 1	PSO 2	PSO 3
CO1	2	2	2	2	-		1	2	-	-
CO2	3	3	3	3	2	1	2	2	2	2
CO3	3	3	2	3	2	-	2	2	2	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	2
CO6	3	3	3	3	3	2	3	3	3	2
Avg PO	2.83	2.83	2.67	2.83	2.60	1.50	2.33	2.50	2.60	2.20

School: SSAHS Programme: MPTBranch: Orthopaedics		**Batch: 2023-2025** **Current Academic Year: 2024-25** **III Semester**	
1.	Course Code	MPT 247	
2.	Course Title	Physiotherapy in Musculoskeletal Conditions-I (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. 2. To provide knowledge about epidemiology, pathophysiology and clinical conditions affecting various joints of body. 3. To educate students about physiotherapy management for various musculoskeletal disorders.	
6.	Course Outcomes	CO1. Understanding about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. CO2. Understanding about epidemiology, pathophysiology and clinical conditions affecting various joints of body CO3. Analyzing the physiotherapy techniques to manage various musculoskeletal disorders. CO4: Applying the principles of physiotherapy management in planning a comprehensive rehabilitation Programme CO5: Evaluating the available treatment techniques and evidence based practice for physiotherapy management of musculoskeletal conditions. CO6: Creating a customised rehabilitation for various musculoskeletal 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	Introduction, etiology, Pathophysiology, Clinical presentation, conservative and surgical management, complications, physiotherapy assessment and physiotherapy management of the following conditions:	CO Mapping
	Unit 1	**Inflammatory disorders**	
	A	To demonstrate physiotherapy management for Congenital malformations	CO1, CO3, CO6
	B	To demonstrate physiotherapy management in Rheumatic disorders and musculoskeletal infections	CO1, CO3, CO6
	Unit 2	**Metabolic and neuromuscular disorders**	
	A	To provide physiotherapy management for metabolic and endocrine disorders	CO2, CO4, CO6
	B	To plan physiotherapy management in following neuromuscular disorders: Poliomyelitis, Cerebral palsy, Arthrogryposis multiplex Congenita, Muscular dystrophy, Osteoarthritis, and crystal deposition Diseases	CO2, CO4, CO6

	Unit 3	**Principles of Investigations**			
	A	To identify common abnormal response of the procedures done for musculoskeletal conditions			CO3, CO5, CO6
	B	To interpret Magnetic Resonance Imaging X- ray, Computerized Tomography, Bone Scan, Laboratory tests, FNAC, Bone biopsy			CO3, CO5, CO6
	Unit 4	**Upper limb and spine conditions**			
	A	To demonstrate physiotherapy management for upper limb conditions			CO3, CO4, CO6
	B	To apply physiotherapy management for spinal conditions			CO3,CO6,CO4
	Unit 5	Lower limb conditions			
	A	To demonstrate physiotherapy management for lower limb conditions			CO4,CO5,CO6
	B	To demonstrate physiotherapy management for fractures			CO4,CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
50	**Textbook/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 MusculoskeletalTrauma 2. Textbook of Orthopaedic and trauma 3. Watson Jones fracture joint and injuries			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	-	3	2	3	1
CO2	3	3	3	3	3	-	2	3	3	2
CO3	3	3	2	3	3	2	3	3	3	2
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	-	3	3	2	2	2	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.83	2.80	2.83	3.00	2.67	2.25	2.50	2.83	3.00	2.00

School: SSAHS		**Batch :2023-25**			
Programme: MPT		**Current Academic Year: 2024-25**			
Branch: Orthopaedics		**Semester:III**			
1	Course Code	MPT 248			
2	Course Title	Clinical Reasoning in Musculoskeletal conditions -II			
3	Credits	3			
4	Contact Hours (L-T-P)	0-0-6			
	Course Type	Compulsory			
5	Course Objective	The student will be able to understand the concepts of history, diagnosis, and interpretation of clinical reasoning in surgical conditions			
6	Course Outcomes	At the end of the course, the student will be able to CO1: To gain knowledge about the concept of clinical reasoning in musculoskeletal conditions CO2: To understand the assessment based on the clinical reasoning. CO3: To apply the skills in diagnosis and clinical decision making in musculoskeletal disorders CO4: To analyze differential diagnosis skills CO5: Decide the skills to be used in diagnosis and clinical decision making. CO6: Formulate the diagnosis and plan for rehabilitation of musculoskeletal disorders			
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in surgical conditions.			
8	Outline syllabus				CO Mapping
	Unit 1	**Introduction to clinical reasoning**			
	A	Background			CO1, CO2
	B	Problem oriented reasoning			CO3, CO4
	C	Clinical reasoning approaches			CO4, CO5
	Unit 2	Assessment and Evaluation			
	A	History Taking			CO2, CO4
	B	Observation			CO3, CO5
	C	Evaluation			CO4, CO5
	Unit 3	Examination			
	A	Special Tests			CO1, CO2
	B	Clinical Criterias			CO3, CO4
	C	Guidelines			CO4, CO5
	Unit 4	Diagnosis and clinical decision making			
	A	Differential Diagnosis			CO2, CO4, CO6
	B	Functional diagnosis			CO3, CO5, CO6
	C	Clinical Presentations			CO4, CO5, CO6
	Unit 5	**Implementations for goals planning**			
	A	Clinical reasoning for short term and long term goals			CO1, CO4, CO6
	B	Patient and family education.			CO2, CO5, CO6
	C	Case presentation and discussion			CO1, CO5
	Mode of examination	Practical			
	Weight age Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	Clinical Practices			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	1	2	-
CO2	2	3	2	3	2	-	2	3	3	2
CO3	2	2	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	2	3	2	3	2
CO5	3	3	2	3	3	2	3	2	3	2
CO6	3	2	3	3	2	2	3	3	3	2
Avg PO	2.67	2.67	2.50	2.83	2.50	2.00	2.67	2.33	2.67	2.00

School: SSAHS		**Batch :2023-25**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Orthopaedics		**III Semester**	
1	Course Code	MPT 249	
2	Course Title	Clinical Skills in Musculoskeletal Physiotherapy -II	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-8	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of implementing, planning and strategically applying the clinical skills in surgical conditions.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: Recall the skills for planning the rehabilitation CO2: Understand the various manual approaches. CO3: Apply the exercise prescription for the medical condition. CO4: Analyze the appropriate progressions. CO5: Evaluate the physiotherapy techniques CO6: Formulate the complete rehabilitation for the patient.	
7	Course Description	The course is designed to develop the understanding for the concepts of implementing, planning and strategically applying the clinical skills in surgical conditions.	
8	Outline syllabus		CO Mapping
	Unit 1	**Rehabilitation planning**	
	A	Importance of planning	CO1,CO2
	B	Goals setting	CO3,CO4
	C	Realistic approach towards the goals	CO4,CO5
	Unit 2	**Application of manual therapies**	
	A	Selection of methods	CO2,CO4
	B	Interpretation of diagnosis and skills to be applied	CO3, CO5
	C	Level of application	CO4,CO5
	Unit 3	**Exercise Prescription**	
	A	Correlation with previous treatments, Impact of psychological and sociological factors	CO1,CO2
	B	Hospital protocols and home protocols	CO3,CO4
	C	Holistic approach	CO4,CO5
	Unit 4	**Progressions and Duration**	
	A	Progression of treatment : age, condition, and other factors	CO2,CO4
	B	Duration of treatment: session duration and number of sessions.	CO3,CO5

	C	Lifestyle modifications			CO4,CO5
	Unit 5	**Seminars**			
	A	Case discussions			CO1,CO4
	B	Recent advance treatments for the conditions.			CO2,CO5
	C	Clinical applications			CO1,CO5
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	25	
	Text book/s*				

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	1	2	-
CO2	2	3	2	3	2	-	2	3	3	2
CO3	2	2	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	2	3	2	3	2
CO5	3	3	2	3	3	2	3	2	3	2
CO6	3	2	3	3	2	2	3	3	3	2
Avg PO	2.67	2.67	2.50	2.83	2.50	2.00	2.67	2.33	2.67	2.00

School: SSAHS		**Batch: 2023-25**
Programme: MPT		**Current Academic Year: 2024-25**
Branch: Orthopaedics		**III Semester**
1	Course Code	INC001
2	Course Title	Faculty Student Industry Connect (FSIC)
3	Credits	2
4	Contact Hours (L-T-P)	0-0-4
	Course Status	Compulsory
5	Course Objective	To create a platform to enhance the industry-academia interaction To give exposure to the industry to our faculty members and students To bridge the gap between industry and academia
6	Course Outcomes	CO1: Enhanced role of the university across industries in the form of knowledge creation, learning, training, consultancy CO2: To give real-time exposure to our faculties about industry environment CO3:Developing an understanding of various real-time problems, latest updates, technological advancements, and best practices of the industry CO4: Establishing corporate connections and strong networking CO5: To make our students industry-ready. CO6: To develop leadership, analytical skills
7	Course Description	The university offers a Faculty-Student Industry Connect (FSIC) course for the holistic development and empowerment of students and faculties to gain more practical insights and exposure to the industry. FSIC will support the curriculum by amplifying, supplementing, and filling in the gaps related to industry exposure, if any. In addition, FSIC will help students and faculty to enrich their knowledge and skills about the various practices of the industry by making industry visits, working on live projects with the industry, and solving the real-time problems of the industry.
8	Outline syllabus	

Pos COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	-	-
CO2	2	3	2	3	2	3	2	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
CO6	3	3	2	3	3	2	3	3	-	2
Avg PO	2.67	2.83	2.33	3.00	2.67	2.50	2.50	2.83	3.00	2.00

Evaluation Scheme: The evaluation scheme of the FSIC course will be as follows:

Continuous Evaluation (CE)	Industry Visit Report	Viva - Voce	Total
80 %	10 %	10 %	100 %

School: SSAHS		**Batch: 2023-25**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Orthopaedics		**III Semester**	
1	Course Code	CCU108	
2	Course Title	Community Connect	
3	Credits	2	
4	Contact Hours (L-T-P)	0-0-4	
	Course Type	Compulsory	
5	Course Objective	1. The objective of assigning the project related to community work is to expose our students to different social issues faced by the people in different sections of society. 2. This type of project work will help the students to develop better understanding of problems of people living in disadvantage position in the society, may be socially, medically, economically, or otherwise. 3. This type of live project work will help our students to connect their class-room learning with practical issues/problems in the society.	
6	Course Outcomes	Students will be able to: CO1: Students develop awareness of the social, health, and environmental challenges faced by the community C02: Students are more appreciative of socio-economic realities beyond textbooks and classrooms CO3: Students learn to apply their knowledge through research, awareness creation, and services for community benefit CO4: Students are able to carry out community-based projects with sincerity, teamwork and timely delivery CO5: Students learn to respectfully engage with communities with purposive intent to contribute to society and sustainable development C06: Students are able to document and present their community project findings in an academically robust manner	
7	Course Description	In Community Connect projects, students will learn how to identify problems of rural and underprivileged communities by conducting surveys, or will help the communities by providing services or solutions for the issues faced by them.	
8	Outline syllabus		CO Mapping
	Unit 1	Team/Group formation and Project Assignment. Problem Definition & Finalizing the problem statement, Resource requirement, if any.	CO1
	Unit 2	Develop a useful questionnaire or service to the community that will aid in achieving the objectives of the project.	CO2
	Unit 3	Learn how to interact with the community members, whether in survey or service-based project – to help develop a more open mindset in the students.	CO3
	Unit 4	Analysis of survey data and/or impact on the community members.	CO4
	Unit 5	Demonstrate and justify their findings in light of the data they have gathered, or show the benefits to the community of the actions they have taken.	CO5, CO6

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	3	1	-	-
CO2	3	3	3	1	1	2	2	3	-	-
CO3	3	3	2	3	3	3	3	1	2	2
CO4	2	2	2	-	1	-	-	3	3	3
CO5	1	1	2	3	3	2	2	3	3	3
CO6	1	1	1	2	2	3	3	3	3	3
Avg PO	2.17	2.17	2.17	2.40	2.00	2.40	2.60	2.33	2.75	2.75

School: SSAHS Programme: MPTBranch: Orthopaedics		Batch: 2023-2025 Current Academic Year: 2024-25 IV Semester	
1.	Course Code	MPT 264	
2.	Course Title	Physiotherapy in Musculoskeletal Conditions-II (Theory)	
3.	Hours/Week	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate students about orientation and general principles oforthopaedic surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures	
6.	Course Outcomes	CO1. Recall about the orientation and general principles of orthopaedic surgeries. CO2.Understanding the concept of assessment following surgical procedures. CO3:Analyzing the physiotherapy management following surgical procedures CO4:Apply the knowledge about orthopaedic implants and its indications CO5:Analyze rehabilitation after tendon transfers, nerve suturing and grafting CO6: Creating a Customised rehab plan for post surgical conditions	
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 Programme following surgical procedures.	
8.	Outline Syllabus	Introduction, etiology, Path physiology, Clinical presentation, conservative and surgical management, complications, PT assessment and PT Management of the following conditions:	CO Mapping
	Unit 1	**General Surgeries**	
	A	Arthrodesis	CO1,CO3, CO6
	B	Osteotomy	CO1,CO3, CO6
	C	Arthroplasty	CO1,CO3,CO6
	Unit 2	**Orthopaedic implants**	
	A	Bone grafting	CO2, CO4, CO6
	B	Internal and external fixations, Orthopaedic implants-designs ,materials, indications, post-operative assessment	CO2,CO4,CO6
	C	Distraction and limb reconstruction	CO2, CO4, CO6
	Unit 3	**Surgical techniques for deformity correction**	
	A	Correction of bone deformities and joint contractures	CO3, CO4, CO6
	B	Tendon transfers	CO3, CO4, CO6
	C	Nerve suturing and grafting.	CO3, CO4, CO6
	Unit 4	**Specific Surgeries**	
	A	Operations on Soft Tissues- Menisectomy, laminectomy, patellectomy , ACL, PCL, MCL, Bankert Surgery,	CO5, CO6

	B	Amputations for Upper Limb			CO5, CO6
	C	Amputations for Lower Limb			CO5, CO6
	Unit 5	**Spinal and Fracture Surgeries**			
	A	Malformations of spine and spinal cord			CO1, CO3, CO6
	B	Neurosurgery of spine and peripheral nerves, Surgeries for disc disorders			CO1,CO3, CO6
	C	Surgical management of fractures and other injuries			CO1,CO3, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Campbell's Orthopaedic surgery 2. Watson Jones fracture join and 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	2	3	1
CO2	3	3	3	3	3	-	2	3	3	2
CO3	3	3	2	3	3	2	3	3	3	2
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	-	3	3	2	2	2	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.83	2.80	2.83	3.00	2.67	2.25	2.50	2.83	3.00	2.00

School: SSAHS **Programme: MPT** **Branch: Orthopaedics**		**Batch: 2023-2025** **Current Academic Year: 2024-25** **IV Semester**	
1.	Course Code	MPT 265	
2.	Course Title	Physiotherapy in Musculoskeletal Conditions-II (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	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. Recall about the orientation and general principles of orthopaedic surgeries. CO2.Understanding the concept of assessment following surgical procedures. CO3: Analyzing the physiotherapy management following surgical procedures CO4: Apply the knowledge about orthopaedic implants and its indications CO5: Analyze rehabilitation after tendon transfers, nerve suturing and grafting CO6: Creating a customised rehab plan for post surgical conditions	
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 Programmefollowing surgical procedures.	
8.	Outline Syllabus	Introduction, etiology, Path physiology, Clinical presentation, conservative and surgical management, complications, PT assessment and PT Management of the following conditions:	CO Mapping
	Unit 1	**GeneralSurgeries**	
	A	To demonstrate physiotherapy management following arthrodesis	CO1, CO3, CO6
	B	To demonstrate physiotherapy management in Osteotomy and Arthroplasty	CO1, CO3, CO6
	Unit 2	**Orthopaedic implants**	
	A	To apply physiotherapy management after bone grafting, distraction and limb reconstruction	CO2, CO4, CO6
	B	To demonstrate the use of internal and external fixators, orthopaedic implants-designs, materials, indications, post-operative assessment	CO2, CO4, CO6
	Unit 3	**Surgical techniques for deformity correction**	
	A	To demonstrate physiotherapy management following correction of bone deformities and joint contractures	CO3, CO4, CO6
	B	To demonstrate physiotherapy management after tendon transfers, nerve suturing and grafting	CO3, CO4, CO6
	Unit 4	**Specific Surgeries**	
	A	To demonstrate physiotherapy management for menisectomy, laminectomy, patellectomy	CO5, CO6

	B	To demonstrate physiotherapy management following amputations for upper and lower limb			CO5, CO6
	Unit 5	**Spinal and Fracture Surgeries**			
	A	To provide physiotherapy management for malformations of spine and spinal cord			CO1, CO3, CO6
	B	To plan physiotherapy management of the following: neurosurgery of spine and peripheral Nerves, Surgeries for disc disorders, Surgical management of fractures and other injuries			CO1, CO3, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Campbell's Orthopaedic surgery 2. Watson Jones fracture join and 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	2	3	1
CO2	3	3	3	3	3	-	2	3	3	2
CO3	3	3	2	3	3	2	3	3	3	2
CO4	2	2	3	3	3	2	3	3	3	2
CO5	3	-	3	3	2	2	2	3	3	2
CO6	3	3	3	3	2	3	2	3	3	3
Avg PO	2.83	2.80	2.83	3.00	2.67	2.25	2.50	2.83	3.00	2.00

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

School: SSAHS **Programme: MPT** **Branch: Orthopaedics**		**Batch: 2023-2025** **Current Academic Year: 2024-25** **IV Semester**			
1.	Course Code	MPT 262			
2.	Course Title	Dissertation			
3.	Credits	18			
4.	Contact Hours (L-T-P)	0-0-36			
	Course Type	Compulsory			
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 types of research CO2: Understand about formulation of research protocol CO3:Apply research Methodology and skills to complete the research dissertation CO4: Analyse the data CO5: Evaluate the methods of scientific literature review and writing. CO6: Implement evidence based practice for research			
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.			
8.	Outline Syllabus				CO Mapping
	Unit 1	Introduction of subject/literature search			CO1,CO6
	Unit 2	Concept building and study design			CO2, CO6
	Unit 3	Experimentation			CO3, CO6
	Unit 4	Data collection, result analysis and discussion			CO4,CO6
	Unit 5	Report Writing			CO5, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Orthopaedic rehabilitation by Brokmen 2. Principles and Practice of Orthopaedics and Sports Medicine by Garret			
	Other References	1. Trauma Secrets by Naudee			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	3	2	2	2	3
CO2	2	2	3	2	2	3	2	2	2	3
CO3	2	3	3	3	3	3	2	1	2	3
CO4	2	2	2	2	2	3	2	1	1	3
CO5	3	3	3	3	3	3	2	2	1	3
CO6	2	3	2	2	1	3	2	3	2	3
Avg PO	2.17	2.33	2.50	2.33	2.17	3.00	2.00	1.83	1.67	3.00

School: Sharda School of Allied Health Sciences			**Batch : 2023-25**
Programme: Master of Physiotherapy (MPT)		**Current Academic Year: 2024-25**	
Branch: Orthopaedics		Semester: IV	
1	Course Code	MPT 266	
2	Course Title	Clinical outcome and follow up in Musculoskeletal Conditions	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-8	
	Course Type	SEC	
5	Course Objective	1. The objective of this course is, the student will be able to assess different Musculoskeletal condition, set treatment goals and apply their skill. 2. Students will understand the role exercise therapy and use of different Musculoskeletal scales for outcome measures. 3. In addition, the student will be able to diagnose the conditions.	
6	Course Outcomes	CO1: Be able to develop research based assessment skills to implement timely and appropriate physiotherapy assessment tools/techniques to ensure a holistic approach to patient evaluation in order to prioritize patient's problems. CO2: Be able to select timely research based physiotherapeutic interventions to reduce morbidity and physiotherapy management strategies, suitable for the patients' problems and indicator conditions based on the best available evidence based on different Musculoskeletal scales and measure the outcomes. CO3: Implement appropriate research based Musculoskeletal approaches, electrotherapeutic modalities, joint and soft tissue mobilizations and ergonomic advice. CO4:Be able to make diagnosis and differential diagnosis of different Musculoskeletal conditions CO5: Be able to develop behavioural skills and humanitarian approach while communicating with patients, relatives, society and co-professionals, to promote individual and community health. CO6: To formulate exercise plan after follow up.	
7	Course Description	The subject serves to integrate the knowledge gained by the students in Musculoskeletal with skills to apply these in clinical situations of dysfunction and Musculoskeletal pathology. The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify disabilities due to Musculoskeletal dysfunction, plan and set treatment goals and apply the skills gained in exercise therapy and electrotherapy in these clinical situations to restore function and measure the outcomes of treatment and predict the prognosis of patient.	
8	Outline syllabus		CO Mapping
	Unit 1	**Musculoskeletal Assessment**	

	A	Required materials for examination, Palpation, Functional Assessment,	CO1, CO2
		Special (Diagnostic) Tests, Joint Play Movements, Palpation, Diagnostic Imaging,	
	B	Gait analysis – Walking. Jogging. Running. Climbing up and Down the stairs	CO1,CO2
	C	Assessment tools and Scales	CO1,CO2
	Unit 2	**Virtual Orthopaedic assessment**	
	A	Infrastructure and technical requirement, upper limb virtual Assessment	CO1, CO3
	B	Lower limb and spine virtual assessment	CO1, CO3
	C	Paediatric virtual assessment	CO1, CO3, CO6
	Unit 3	**Amputation**	
	A	Amputation, Levels of Amputation, Measurements Related to Amputation,	CO2, CO4
	B	Diagnostic Imaging,	CO2, CO4
	C	Functional Assessment,	CO2, CO4
	Unit 4	**Evaluation, Management and differential diagnosis**.	
	A	Differential diagnosis and scales, Musculoskeletal approaches in congenital malformation, Development disease of skeleton.	CO1,CO4,CO5
	B	Spinal Deformities Assessment	CO1,CO4,CO5
	C	Evidence based approach to musculoskeletal conditions	CO1,CO4, CO5
	Unit 5	**Surgical management and outcome measures**	
	A	Musculoskeletal scale, Pre and post-surgical assessment and treatment.	CO3,CO4,CO5
	B	Special tests after surgical conditions	CO5, CO6
	C	Clinical follow up	CO5, CO6
	Mode of examination	Practical	
	Weightage Distribution	CA: 25 / CE: 25 / ESE: 50	
	Text book/s*	1. Orthopaedic physical assessment by David J. Mag ee 2. Orthopaedic Rehabilitation by Brokman 3. Essential of Orthopaedic for physiotherapists by Ebnezar 4. Orthopaedic Physical therapy by Donatteli, London Churchill Livingstone 5. Orthopaedic Manual Physical Therapy. Christopher H. Wise	
	Other References		

CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

MPT (Cardiopulmonary)

School: SSAHS		**Batch :2023-25**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Cardiopulmonary		**II Semester**	
1	Course Code	MPT 141	
2	Course Title	Cardiopulmonary Biomechanics	
3	Credits	3	
4	Contact Hours (L-T-P)	3-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To provide a detailed introduction on basic anatomy, physiology, structure and function of the cardiopulmonary system. 2. To educate the students about the concept of cardio respiratory Mechanics and its applications. 3. To encourage the students to apply the cardiopulmonary 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: Recall basic anatomy, physiology, structure and function of the cardiopulmonary systems. CO2: Understand the cardio physiology of exercise and energy transfer CO3: Understand various normal and pathological gaits and postures. CO4: Apply the basic concepts of biomechanics of fluid. CO5: Apply the knowledge and concepts of biomechanics of cardiopulmonary structures with respect to physiotherapy. CO6: Creating rehabilitation Programme using the biomechanical principles for various dysfunctions	
7	Course Description	This course is designed to develop 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 and various other dysfunctions as well as knowledge of basic and applied cardio physiology	
8	Outline syllabus		CO Mapping
	Unit 1	**Structure and function of the cardiopulmonary system**	
	A	Basic Science: Anatomy and physiology of cardio-vascular and respiratory systems, origin insertion of diaphragm, its mechanical advantages and abnormalities	CO1
	B	Intrauterine development of cardiopulmonary system	CO1
	C	Difference between the adult and paediatric cardiopulmonary system.	CO1
	Unit 2	**Muscle Mechanics**	
	A	Structure and composition of muscles, fiber length and cross section area, Mechanical properties	CO2
	B	EMG changes during fatigue and contraction	CO2

	C	Changes in mechanical properties because of ageing and Exercise and Immobilization			CO2
	Unit 3	**Gait and Posture**			
	A	Gait- Kinetics and kinematic analysis, pathological gait			CO3
	B	Analysis of running, Stair climbing ,Changes in gait followingvarious surgeries/ diseases/disorders			CO3
	C	Posture analysis, components of good posture.			CO3
	Unit 4	**Fluid Mechanics**			
	A	Various laws governing the flow of fluids, Various laws governing the volume of fluid			CO4
	B	Various laws governing the pressure of fluid, Various laws governing the energy of fluid			CO4
	C	Various parameters explaining the flow, Various parameters describing the fluid, Clinical applications.			CO4
	Unit 5	**Respiratory Mechanics**			
	A	Rib cage movement – Bucket Handle, Pump handle and changes during lung pathologies			CO5,CO6
	B	Chest wall deformities and their biomechanics			CO5,CO6
	C	Normal and abnormal breathing mechanism in different lung conditions			CO5,CO6
	Mode of examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Text book/s*	1. Clinical Biomechanics of the spine: White, Augustus 2. Biomechanical basis of human movement, Joseph Hamill and Kathleen M.Knutzen, 3rd Edition, LWW Publications. 3.Bio-mechanics of Musculoskeletal System by Nigg, 2nd Edition, John Wiley Publication.			
	Other References	1. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication.			

S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	2	2	2
CO2	3	3	3	3	3	2	2	2	2	2
CO3	3	3	-	3	3	2	2	2	3	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	3	3	-	3	2	2	2	2	2
CO6	3	3	3	3	3	2	2	2		2
Avg PO	3	3	3	3	3	2	2	2	2	2

School: SSAHS Programme: MPT Branch: Cardiopulmonary		Batch: 2023-25 Current Academic Year: 2023-24 II Semester	
1.	Course Code	MPT 142	
2.	Course Title	Cardiopulmonary Physiotherapy Assessment (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the examination and evaluation of cardiopulmonary system.	
6.	Course Outcomes	On completion of the course, the student will be able to: CO1: Gain knowledge about the cardiopulmonary physiotherapy assessment CO2: Understand the assessment for systemic diseases of cardiac system CO3. Identify the outcomes of assessment CO4. Analyse the systematic, meaningful, accurate written records of patients CO5: Interpret the assessment outcome. CO6: To formulate the use of various tools in assessment and their significance	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiopulmonary physiotherapy evaluation and treatment.	
8.	Outline Syllabus		CO Mapping
	Unit 1	Assessment of pulmonary system and diseases	
	A	Subjective assessment : demographic data, history taking	CO1, CO2
	B	Objective assessment: chest inspection, palpation, percussion and auscultation.	CO1, CO2
	C	Assessment of functional status: Generic questionnaires,Disease specific questionnaires, Performance-based tests	CO1, CO2
	Unit 2	Assessment of cardiac system and diseases	
	A	Subjective assessment :Determination of chief compliant , Review of patient history	CO1, CO2
	B	Objective assessment: chest inspection, palpation, percussion and Auscultation of the heart: heart sounds, normal and abnormal	CO1, CO2
	C	Assessment of Fatigability, Laboratory investigations Physiological tests and specific questionnaire	CO1, CO2
	Unit 3	**Assessment of patients with cardiothoracic surgeries**	
	A	Chief complaints, History taking, Associated co-morbiditiesADL : Functional evaluation in cardiac patients, Operative procedure, Incision line , Type of surgery, Any special event	CO2, CO3
	B	Investigation: Chest x-ray,ECG: Lead placement, tracing, recording, interpretation of normal and abnormal Stress testing.	CO2, CO3
	C	Exercise testing: Low level/sub maximal/maximal. Procedure of testing, Contraindications and precautions in adults and Paediatrics Exercise tests and prescription, METS in stress testing.	CO2, CO3
	Unit 4	**Assessment of Peripheral vascular diseases**	
	A	Personal information from patient, Duration of onset of problem ,Medical/ social history, Medications Allergic history	CO3, CO4
	B	Coursive assessment :Pain assessment, Wound history	CO3, CO4

	C	Other objective tests : Temperature, Girth, Pulse, Bruits Percussion test, Trendelenburg test , Cuff test ,Doppler index			CO4, CO5, CO6
		Ruber of dependency, Venous filling time,Claudication time, Semmes-Weinstein monofilament testing , Other finding			
	Unit 5	**ICU Assessment**			
	A	Subjective assessment of ICU patient			C04
	B	Objective assessment of patient			CO4, CO5
	C	Specific questionnaires for ICU patient: functional status, consciousness.			CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2. Electrodiagnosis in disease of muscle: Kumara ,Jim 3. Physiotherapy for respiratory and cardiac problems : Adults And Paediatrics --3rd edition / 4th ed. Pryor, J A and Prasad, S Ammani			
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines			

Pos COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	2	2	2
CO2	3	3	3	3	3	2	2	2	2	2
CO3	3	3	-	3	3	2	2	2	3	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	3	3	-	3	2	2	2	2	2
CO6	3	3	3	3	3	2	2	2	-	2
Avg PO	3	3	3	3	3	2	2	2	2	2

School: SSAHS **Programme: MPT** **Branch: Cardiopulmonary**		**Batch: 2023-25** **Current Academic Year: 2023-24** **II Semester**	
1.	Course Code	MPT 143	
2.	Course Title	Advanced Physiotherapeutics in Cardiopulmonary Conditions (Theory)	
3.	Credits	3	
4.	Contact Hours (L-T-P)	3-0-0	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the recent advance management in Intensive Care Unit.	
6.	Course Outcomes	On completion of the course, the student will be able to: CO1: Gain knowledge about Intensive Care Unit setup and equipment's used. CO2: Understand the use of Airway Clearance Techniques: CO3: Apply different Pulmonary techniques. CO4: Analyze the use of pulmonary techniques for Respiratory Conditions. CO5: To evaluate Protocol in ICU Ventilated patients. CO6: To create Intervention Protocol in ICU Ventilated patients.	
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	**Intensive Care Unit**	
	A	Concept and set-up, monitoring and patient management.	CO1
	B	Artificial airways, ventilators, pulse –oximetry.	CO2
	C	Cardio-pulmonary resuscitation.	CO1, CO2
	Unit 2	**Airway Clearance Techniques**	
	A	Percussion, Vibration, Shaking. Postural Drainage	CO2
	B	Huffing and coughing Active Cycle of Breathing Technique c. Autogenic Drainage	CO2, CO3
	C	a. Vibratory PEP Devices: Acapella, Flutter, b. Non-Vibratory PEP Devices: Thera PEP	CO2
	Unit 3	**Breathing Exercises and Ventilator Training**	
	A	a) Diaphragmatic Breathing Exercise b) Segmental breathing exercise c) Pursed lip breathing	CO3
	B	a) Respiratory resistance training b) Glossopharyngeal Breathing	CO3
	C	Relaxation positions to control dyspnoea	CO3
	Unit 4	**Treatment of Respiratory Conditions**	
	A	Acute Respiratory Distress Syndrome	CO4, CO5
	B	Chronic Respiratory Conditions	C05

	C	Restrictive Lung Disease			CO5
	Unit 5	**Intensive Care Management**			
	A	Weaning from mechanical ventilation.			CO5
	B	Physiotherapy intervention during non-invasive ventilation.			CO6
	C	Implication for physiotherapy in mechanically ventilated patients.			CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Handbook of Intensive Care Organization and Management, September 2016 Pages: 424, Edited By: Andrew Webb (UBC). 2. Clinical Application of Mechanical Ventilation Paperback – 25 Jan 2013 by David Chang (Author) 3. Cardiovascular and Pulmonary Physical Therapy, 5th Edition from Donna Frownfelter, Elizabeth Dean. Mosby, 2015, ISBN-9780323059138. 4. Essentials of Cardiopulmonary Physical Therapy H. Steven Sadowsky, Ellen A. Hillegass, ISBN-9781437703832.			
	Other References	1. The flying publisher guide to Critical Care in Neurology, Kitchener, Hashem, Wahba, Khalaf, Zarif, Mansoor, 2012. 2. Cardiopulmonary symptoms in physiotherapy practice-CohenM. Churchill Livingstone. London 1988.			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	3	2	3	-	2	2	3	3	2
CO2	2	-	2	3	2	2	2	3	3	2
CO3	2	3	3	3	-	2	2	2	3	3
CO4	2	3	2	3	2	-	2	3	-	2
CO5	2	2	2	3	2	2	-	3	3	2
CO6	2	2	2	-	3	2	2	3	3	2
Avg PO	2.00	2.60	2.17	3.00	2.25	2.00	2.00	2.83	3.00	2.17

School: SSAHS Programme: MPT Branch: Cardiopulmonary		Batch: 2023-2025 Current Academic Year: 2023-24 II Semester	
1.	Course Code	MPT 144	
2.	Course Title	Cardiopulmonary Physiotherapy Assessment (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the examination and evaluation of cardiopulmonary system.	
6.	Course Outcomes	On completion of the course, the student will be able to: CO1: Gain knowledge about the cardiopulmonary physiotherapy assessment CO2: Understand the assessment for systemic diseases of cardiac system CO3. Identify the outcomes of assessment CO4. Analyse the systematic, meaningful, accurate written records of patients CO5: Interpret the assessment outcome. CO6: To formulate the use of various tools in assessment and their significance	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiopulmonary physiotherapy evaluation and treatment.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Assessment of pulmonary system and diseases**	
	A	To perform subjective and objective assessment for pulmonary system	CO1,CO2
	B	To assess functional status in pulmonary system	CO1,CO2
	Unit 2	**Assessment of cardiac system and diseases**	
	A	To perform subjective and objective assessment for cardiovascular system	CO1,CO2
	B	To assess fatigability and interpret laboratory investigations physiological tests and specific questionnaire	CO1,CO2
	Unit 3	**Assessment of patients with cardiothoracic surgeries**	
	A	To assess functional status in cardiopulmonary post surgical patients	CO2, CO3, CO6
	B	To perform the exercise testing in adults and paediatrics patients	CO2, CO3, CO6
	Unit 4	**Assessment of Peripheral vascular diseases**	
	A	To perform pain and functional assessment in peripheral vascular diseases	CO3, CO4, CO6
	B	To perform the measurements for following: Temperature, Girth, Pulse, Bruits Percussion test, Trendelenburg test, Cuff test, Doppler index, Ruber of dependency, Venous filling time, Claudication time,Semmes-Weinstein monofilament testing	CO3, CO4, CO6

	Unit 5	**ICU Assessment**			
	A	To perform subjective and objective assessment of ICU patient			CO4,CO6
	B	To interpret the findings of specific questionnaires for ICU patient: functional status, consciousness			CO4, CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2. Electrodiagnosis in disease of muscle: Kumara ,Jim 3. Physiotherapy for respiratory and cardiac problems : Adults And Paediatrics --3rd edition / 4th ed. Pryor, J A and Prasad, S Ammani			
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	2	2	2
CO2	3	3	3	3	3	2	2	2	2	2
CO3	3	3	-	3	3	2	2	2	3	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	3	3	-	3	2	2	2	2	2
CO6	3	3	3	3	3	2	2	2	-	2
Avg PO	3	3	3	3	3	2	2	2	2	2

School: SSAHS Programme: MPT Branch: Cardiopulmonary		Batch: 2023-25 Current Academic Year:2023-24 II Semester	
1.	Course Code	MPT 145	
2.	Course Title	Advanced Physiotherapeutics in Cardiopulmonary Conditions (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in Cardio-Pulmonary Physiotherapy. 2. To analyse, diagnose and classify various Cardiopulmonary Disorders and its management. 3. Compare and contrast the outcome of various physiotherapy treatment approaches	
6.	Course Outcomes	On completion of the course, the student will be able to: CO1: Gain knowledge about Intensive Care Unit setup and equipment's used. CO2: Understand the use of Airway Clearance Techniques: CO3: Apply different Pulmonary techniques. CO4: Analyze the use of pulmonary techniques for Respiratory Conditions. CO5: To evaluate Protocol in ICU Ventilated patients. CO6: To create Intervention Protocol in ICU Ventilated patients.	
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	**Intensive Care Unit**	
	A	Concept and set-up, monitoring and patient management.	CO1
	B	Artificial airways, ventilators, pulse –oximetry.	CO2
	C	Cardio-pulmonary resuscitation.	CO1, CO2
	Unit 2	**Airway Clearance Techniques:**	
	A	Percussion, Vibration, Shaking,Postural Drainage	CO2
	B	Huffing and coughing, Active Cycle of Breathing Technique Autogenic Drainage	CO2, CO3
	C	Vibratory PEP Devices: Acapella, Flutter, Non-Vibratory PEP Devices: Thera PEP	CO2
	Unit 3	**Breathing Exercises and Ventilator Training**	
	A	Diaphragmatic Breathing Exercise Segmental breathing exercise Pursed lip breathing	CO3
	B	Respiratory resistance training Glossopharyngeal Breathing	CO3
	C	Relaxation positions to control dyspnoea	CO3
	Unit 4	**Treatment of Respiratory Conditions**	
	A	Acute Respiratory Distress Syndrome	CO4, CO5
	B	Chronic Respiratory Conditions	CO5, CO6

	C	Restrictive Lung Disease			CO5,CO6
	C				
	Unit 5	**Intensive Care Management**			
	A	Weaning from mechanical ventilation.			CO5
	B	Physiotherapy intervention during non-invasive ventilation.			CO6
	C	Implication for physiotherapy in mechanically ventilated patients.			CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Handbook of Intensive Care Organization and Management, September 2016 Pages: 424, EditedBy: Andrew Webb (UBC). 2. Clinical Application of Mechanical Ventilation Paperback – 25 Jan 2013 by David Chang (Author) 3. Cardiovascular and Pulmonary Physical Therapy, 5th Edition from Donna Frownfelter, Elizabeth Dean. Mosby, 2015, ISBN-9780323059138. 4. Essentials of Cardiopulmonary Physical Therapy H. Steven Sadowsky, Ellen A. Hillegass, ISBN-9781437703832.			
	Other References	1. The flying publisher guide to Critical Care in Neurology, Kitchener, Hashem, Wahba, Khalaf, Zarif, Mansoor, 2012. 2. Cardiopulmonary symptoms in physiotherapy practice- CohenM. Churchill Livingstone. London 1988.			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	2	2	2
CO2	3	3	3	3	3	2	2	2	2	2
CO3	3	3	-	3	3	2	2	2	3	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	3	3	-	3	2	2	2	2	2
CO6	3	3	3	3	3	2	2	2	-	2
Avg PO	3	3	3	3	3	2	2	2	2	2

School: SSAHS		**Batch :2023-25**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Cardiopulmonary		**II Semester**	
1	Course Code	MPT 146	
2	Course Title	Clinical Reasoning in Cardiopulmonary Conditions-I	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of diagnosis, testing and interpretation of clinical reasoning and history.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: Understand the clinical reasoning CO2: Understand the assessment and evaluation skills CO3: Demonstrate the various special tests CO4: Apply the skills in clinical decision making and diagnosis in cardiopulmonary conditions CO5: Apply the skills in goals planning CO6: Formulate the treatment plan based on clinical reasoning	
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in cardiopulmonary conditions.	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to clinical reasoning**	
	A	Background	CO1
	B	Problem oriented medical records : treatment goals and plans	CO1
	C	Subjective, objective assessment	CO1
	Unit 2	**Assessment and Evaluation**	
	A	History Taking	CO2
	B	Observation	CO2
	C	Evaluation	CO2
	Unit 3	**Examination**	
	A	Special Tests	CO3
	B	Clinical Criteria's	CO3
	C	Guidelines	CO3
	Unit 4	**Diagnosis and clinical decision making**	
	A	Differential Diagnosis	CO4,CO6
	B	Functional diagnosis	CO4,CO6
	C	Clinical Presentations	CO4,CO6
	Unit 5	**Implementations for goals planning**	
	A	Clinical reasoning for short term & long term goals	CO5,CO6
	B	Patient and family education.	CO5,CO6
	C	Case presentation & discussion	CO5,CO6

	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Handbook of Intensive Care Organization and Management, September 2016 Pages: 424, EditedBy: Andrew Webb (UBC). 2. Clinical Application of Mechanical Ventilation Paperback – 25 Jan 2013 by David Chang (Author)			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

School: SSAHS		**Batch :2023-2025**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Cardiopulmonary		**Semester: II**	
1	Course Code	MPT 147	
2	Course Title	Clinical Skills in Cardiopulmonary Physiotherapy -I	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of Cardiopulmonary physiotherapy clinical skills in clinical set up and hospital set ups.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: Gain knowledge about patient assessment and examination techniques, including a systematic approach to physiotherapy assessment CO2: Understand the assessment of ICU patient CO3: Apply the special tests useful for cardiopulmonary patients CO4: Analyze the use of appropriate physiotherapy techniques CO5: Evaluate the physiotherapy techniques including manual and mechanical CO6: Formulate treatment plan for cardiopulmonary conditions	
7	Course Description	The course is designed to develop the basic knowledge about the concept of Clinical skills of cardiopulmonary physiotherapy.	
8	Outline syllabus		CO Mapping
	Unit 1	**Cardiopulmonary assessment**	
	A	Subjective and objective assessment of cardiac patient	CO1
	B	Subjective and objective assessment of pulmonary patient	CO1
	C	Outcome measures	CO1
	Unit 2	**ICU Assessment**	
	A	Bed side assessment of patient	CO2
	B	Mechanical ventilator assessment, weaning off criteria assessment and treatment	CO2
	C	Specific ICU questionnaires, bed sore examination	CO2
	Unit 3	**Special tests**	
	A	ABG,CHEST X RAY	CO3
	B	PFT, exercise testing : 6 min walk test, step test, shuttle walk test	CO3
	C	ECG, Echocardiography	CO3
	Unit 4	**Treatment in ICU**	
	A	Bed side mobilization, positioning	CO4, CO5
	B	Oxygen therapy , suctioning	CO4, CO5
	C	Chest physiotherapy, limb physiotherapy	CO4, CO5
	Unit 5	**Pediatrics ICU**	
	A	Bed side assessment of pediatric patient	CO1, CO2,CO6

	B	Specific questionnaire and scales for pediatric patient			CO1, CO2,CO6
	C	Chest physiotherapy and limb physiotherapy			CO4, CO5, CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Handbook of Intensive Care Organization and Management, September 2016 Pages: 424, EditedBy: Andrew Webb (UBC). 2. Clinical Application of Mechanical Ventilation Paperback – 25 Jan 2013 by David Chang (Author)			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

School: SSAHS Programme: MPT Branch: Cardiopulmonary		Batch: 2023-25 Current Academic Year: 2024-25 III Semester	
1.	Course Code	MPT 250	
2.	Course Title	Physiotherapy in Cardiopulmonary Conditions –I (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the examination and evaluation of cardiopulmonary system.	
6.	Course Outcomes	CO1: Remembering the aetiology, pathology, clinical features and medical or Surgical management of various diseases/disorders affecting the cardiac and vascular conditions. CO2: Understanding the basic concepts of assessment/ diagnostic tests of various cardiovascular diseases/disorders. CO3: Understanding the surgical procedures, their complications and management of cardiovascular conditions CO4: Applying the principles of physiotherapy management in planning a Comprehensive cardiovascular rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for Physiotherapy management of cardiovascular conditions. CO6: Creating a customized Cardiac rehabilitation Programme for specific conditions.	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiovascular pathophysiology, surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Cardiovascular Medicine(epidemiology, path mechanics, clinical presentation, Diagnostic tests and medical management)**	
	A	Cardiac failure, rheumatic fever, congenital heart disease, diseases of heart valves, cardiomyopathy	CO1, CO2
	B	Ischemic heart disease, Hypertension, peripheral vascular disease, infective endocarditis.	CO1, CO2
	C	Disorders of Cardiac rate, Rhythm and conduction	CO4, CO5,CO6
	Unit 2	**Cardiovascular Surgeries (indications, contraindications, pre and post-surgical precautions and surgical management)**	
	A	Incisions for procedures in cardio-thoracic and vascular surgery: incisions on sternum, anterior and lateral chest wall, abdominal including for procedures on diaphragm, mediastinum, oesophagus and aorta	CO4, CO5
	B	Pre-operative assessment of patient, Emergencies in CTVS, LV assist devices, complications of cardiac surgery (thromboembolism, phrenic nerve injury, unstable sternum)	CO2, CO3
	C	Cardiopulmonary Bypass machine, difference between open and closed heart surgery, CTVS procedure (outline and definition of procedures), Heart transplant	CO2, CO3
	Unit 3	Cardiovascular physiotherapy and rehabilitation	

	A	Definition of cardiac rehabilitation and role of exercise in heart disease			CO4, CO5
	B	Outcome measures in cardiac rehabilitation			CO2, CO4
	C	Development, intervention, and prevention of coronary artery disease			CO4, CO5,CO6
	Unit 4	**Cardiac rehabilitation**			
	A	General guidelines and preliminary considerations			CO1, CO2
	B	Phase I: Inpatient cardiac rehabilitation, Phase II: Outpatient cardiac rehabilitation			CO5, CO6
	C	Phase III and IV: community based cardiac rehabilitation Programme			CO5,CO6
	Unit 5	**Special considerations**			
	A	Older patients, hypertension, diabetes mellitus, chronic heart failure			CO5, CO6
	B	Heart transplantation, women's health			CO5, CO6
	C	Patient education: guidelines in cardiac rehabilitation			CO5,CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2. AACPVR Guidelines 3. Physiotherapy for respiratory and cardiac problems : Adults And Paediatrics --3rd ed / 4th ed. Pryor, J A andPrasad, S Ammani			
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.50	2.50	1.75	2.00	2.83	2.83	1.25

School: SSAHS **Programme: MPT** **Branch: Cardiopulmonary**		**Batch: 2023-25** **Current Academic Year: 2024-25** **III Semester**	
1.	Course Code	MPT 251	
2.	Course Title	Cardiopulmonary Rehabilitation	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the medical and surgical management of various conditions in pulmonary system.	
6.	Course Outcomes	CO1: Remembering the etiology, pathology, clinical features and medical or surgical Management of various diseases/disorders affecting the cardio- pulmonary conditions. CO2: Understanding the basic concepts of assessment/ diagnostic tests of various cardiopulmonary diseases/disorders. CO3: understanding the surgical procedures, their complications and management of cardiopulmonary conditions CO4: Applying the principles of physiotherapy management in planning a comprehensive Cardiopulmonary rehabilitation programme. CO5: Evaluating the available treatment techniques and evidence based practice for Physiotherapy management of cardiopulmonary conditions CO6: Creating a customized cardiopulmonary rehabilitation programme for specific conditions.	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiovascular pathophysiology, surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Cardiac rehabilitation**	
	A	Definition and guidelines (AHA and AACPVR) of cardiac rehabilitation	CO1, CO2,CO4
	B	Specific guidelines and preliminary considerations Phase I: Inpatient cardiac rehabilitation Phase II: Outpatient cardiac rehabilitation Phase III and IV: community based cardiac rehabilitation Programme	CO1, CO2,CO4
	C	Outcome measures in cardiac rehabilitation	CO4, CO5,CO6
	Unit 2	**Disease- specific approaches in cardiac rehabilitation**	
	A	Coronary Heart disease (Post angioplasty and post CABG) Valvular Heart disease (post valvular repair and replacement)	CO4, CO5,CO6
	B	Heart failure LVAD , IABP and pacemakers Heart transplantation	CO2, CO3
	C	Congenital Heart Disease	CO2, CO3
	Unit 3	**Pulmonary rehabilitation**	
	A	Definition of pulmonary rehabilitation and guidelines (AACPVR, ATS and European Respiratory Society)	CO4, CO5, CO6

	B	Outcome measures in pulmonary rehabilitation and Scales used in pulmonary rehabilitation (becks depression inventory (BDI) and Hamilton Anxiety Scale(HAS), MMSE, SGRQ, SF-36, Activities-specific balance scale			CO2, CO4, CO6
	C	Exercise assessment and training			CO4, CO5
		Submaximal and maximal exercise testing Exercise training (upper and lower extremity training) Respiratory muscle training Home exercise Programme			
	Unit 4	**Disease- specific approaches in pulmonary rehabilitation**			
	A	Asthma COPD Pulmonary hypertension Interstitial Lung disease			CO1, CO2, CO6
	B	Obesity related respiratory disorder Chest wall and neuromuscular disorder Lung cancer			CO4,CO5
	C	Lung volume reduction surgery Lung transplantation			CO4,CO5
	Unit 5	**Special considerations**			
	A	Technological advancements : tele-monitoring and tele- rehab			CO4, CO5, CO6
	B	Older patients, diabetes mellitus, Heart transplantation, ICD, peripheral arterial disease, dysrhythmias, resistance training, women.			CO4, CO5, CO6
	C	Patient education and skill training			CO4, CO5, CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmmonary Physical therapy: Evidence to practice --5th ed Doona Frown felter 2. Cash's TB in general medical & surgical condition for Physiotherapist- 2nd ed Downie, PA 3. Physiotherapy for respiratory and cardiac problems : Adults And Pediatrics --3rd ed / 4th ed. Pryor, J A &Prasad, S Ammani 4. Cardio- Pulmonary Rehabilitation Guidelines ATS, AHA, AACPVR, ETS 5. Cardio Pulmonary Physical Therapy 6th Ed Scoot Irwin			
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines			

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	-	2	3	3	-
CO2	2	3	2	3	2	-	2	2	3	-
CO3	2	2	3	3	2	2	2	3	3	1
CO4	3	3	2	3	3	1	3	3	3	2
CO5	3	3	3	3	3	2	3	3	3	2
CO6	3	3	2	3	3	2	3	3	3	2
Avg PO	2.67	2.83	2.33	3.00	2.67	1.75	2.50	2.83	3.00	1.75

School: SSAHS **Programme: MPT** **Branch: Cardiopulmonary**		**Batch: 2023-25** **Current Academic Year: 2024-25** **III Semester**	
1.	Course Code	MPT 252	
2.	Course Title	Physiotherapy in Cardiopulmonary Conditions –I (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the examination and evaluation of cardiopulmonary system.	
6.	Course Outcomes	CO1: Remembering the aetiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the cardiac and vascular conditions. CO2: Understanding the basic concepts of assessment/ diagnostic tests of various cardiovascular diseases/disorders. CO3: Understanding the surgical procedures, their complications and management of cardiovascular conditions CO4: Applying the principles of physiotherapy management in planning a comprehensive cardiovascular rehabilitation programme. CO5: Evaluating the available treatment techniques and evidence based practice for Physiotherapy management of cardiovascular conditions. CO6: Creating a customized Cardiac rehabilitation programme for specific conditions.	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiovascular pathophysiology, surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Cardiovascular Medicine (epidemiology, pathomechanics, clinical presentation, Diagnostic tests and medical management)**	
	A	To assess cardiovascular function in following conditions: Cardiac failure, rheumatic fever, congenital heart disease, diseases of heart valves, cardiomyopathy, Ischemic heart disease, Hypertension, peripheral vascular disease,infective endocarditis.	CO1, CO2
	B	To interpret ECG findings for identifying the disorders of cardiac rate, rhythm and conduction	CO2, CO3
	Unit 2	**Cardiovascular Surgeries (indications, contraindications, pre and post-surgical precautions and surgical management)**	
	A	To evaluate the cardiovascular function following cardio-thoracic and vascular surgeries	CO1, CO2
	B	To perform pre-operative assessment for patients with cardiothoracic disorders	CO2, CO3
	Unit 3	**Cardiovascular physiotherapy and rehabilitation**	
	A	To evaluate the outcome measures in cardiac rehabilitation	CO1, CO2
	B	To plan an intervention for prevention of coronary artery disease	CO2, CO3

	Unit 4	**Cardiac rehabilitation**			
	A	To plan phase I and II rehabilitation for cardiac patients			CO1, CO2,CO6
	B	To plan phase III and IV rehabilitation for cardiac patients			CO2, CO3,CO6
	Unit 5	**Special considerations**			
	A	To plan rehabilitation for following : Older patients, hypertension, diabetes mellitus, chronic heart failure			CO1, CO2,CO6
	B	To plan rehabilitation for heart transplantation and women			CO2, CO3, CO4, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2. Electrodiagnosis in disease of muscle: Kumara ,Jim 3. Physiotherapy for respiratory and cardiac problems : Adults And Paediatrics --3rd edition / 4th ed. Pryor, J A andPrasad, S Ammani			
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.50	2.50	1.75	2.00	2.83	2.83	1.25

School: SSAHS		**Batch :2023-2025**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Cardiopulmonary		**III Semester**	
1	Course Code	MPT 253	
2	Course Title	Clinical Reasoning in Cardiopulmonary Conditions -II	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of diagnosis, testing and interpretation of clinical reasoning, differential diagnosis and patient/family education.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: to understand the clinical reasoning background CO2: to understand the differential diagnosis for cardiac patient CO3: to demonstrate differential diagnosis for pulmonary patient CO4: to apply the skills in Patient education/family education CO5: to apply the skills in Interpretation from clinical assessment CO6: to formulate an exercise Programme	
7	Course Description	The course is designed to develop the basic knowledge about the concept of Clinical reasoning in cardiopulmonary conditions	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to clinical reasoning**	
	A	Background : documentation, professionalism , physiotherapy standards	CO1
	B	Problem oriented medical records : treatment goals and plans	CO1
	C	Subjective, objective assessment	CO1
	Unit 2	Differential diagnosis for cardiac patient	
	A	Cases discussion	CO2
	B	Systemic presentation	CO2
	C	specific criteria / guidelines	CO2
	Unit 3	**Differential diagnosis for pulmonary patient**	
	A	Cases discussion	CO3
	B	Systemic presentation	CO3
	C	specific criteria / guidelines	CO3
	Unit 4	**Patient education/family education**	
	A	Education of patient regarding diseases	CO4,CO6
	B	Education of family member regarding diseases and patient care	CO4,CO6
	C	AACVPR guidelines	CO4,CO6
	Unit 5	Interpretation from clinical assessment	
	A	Case discussion	CO5,CO6
	B	Case presentation	CO5,CO6
	C	Recent advances/ evidence bases approach	CO5,CO6

	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidenceto practice -- 5th edition Donna Frownfelter 2.AACPVR Guidelines			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	1	2	-
CO2	2	3	2	3	2	-	2	3	3	2
CO3	2	2	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	2	3	2	3	2
CO5	3	3	2	3	3	2	3	2	3	2
CO6	3	2	3	3	2	2	3	3	3	2
Avg	2.67	2.67	2.50	2.83	2.50	2.00	2.67	2.33	2.67	2.00

School: SSAHS		**Batch :2023-2025**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Cardiopulmonary		**III Semester**	
1	Course Code	MPT 254	
2	Course Title	Clinical Skills in Cardiopulmonary Physiotherapy -II	
3	Credits	4	
4	Contact Hours (L-T-P)	0-0-8	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of Cardiopulmonary physiotherapy clinical skills in clinical set up and hospital set ups.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: Explain and demonstrate the technique for chest clearance and assessment CO2: Understand the physiotherapist in cardiac and pulmonary rehabilitation, CO3: Apply breathing techniques, including the management of breathlessness and dysfunctional breathing. CO4: Analyze the use of non-invasive ventilation. CO5: Evaluate the management of post lung and cardiac surgery patients CO6: Formulate rehabilitation protocol	
7	Course Description	The course is designed to develop the basic knowledge about the concept of Clinical skills of cardiopulmonary physiotherapy.	
8	Outline syllabus		CO Mapping
	Unit 1	**Airway clearance techniques**	
	A	Postural drainage	CO1
	B	Coughing and huffing	CO1
	C	Percussion and vibration	CO1
	Unit 2	**Cardiac and pulmonary rehabilitation**	
	A	Phases of rehabilitation	CO2
	B	Explanation and education to patient	CO2
	C	Specific approaches for the patients	CO2
	Unit 3	**Physiotherapy techniques to increase lung volume**	
	A	Breathing exercises	CO3
	B	Neurophysiological facilitation of respiration	CO3
	C	Body positioning and mobilization	CO3
	Unit 4	**NIV**	
	A	Application of NIV	CO4,CO5 , CO6
	B	assessment of patient	CO4,CO5 , CO6
	C	education and counseling, relaxation position to control dyspnea	CO4,CO5 , CO6
	Unit 5	**Post cardiac and lung surgery**	
	A	Assessment after lung surgery (ICD in situ)	CO1,CO2 , CO6
	B	Assessment after cardiac surgery	CO1,CO2 , CO6
	C	Physiotherapy techniques and other mechanical aids : PEP devices, incentive spirometry	CO4,CO5 , CO6

	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidenceto practice --5th edition Donna Frownfelter 2.AACPVR Guidelines			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	1	2	-
CO2	2	3	2	3	2	-	2	3	3	2
CO3	2	2	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	2	3	2	3	2
CO5	3	3	2	3	3	2	3	2	3	2
CO6	3	2	3	3	2	2	3	3	3	2
Avg PO	2.67	2.67	2.50	2.83	2.50	2.00	2.67	2.33	2.67	2.00

School: SSAHS		**Batch: 2023-25**
Programme: MPT		**Current Academic Year: 2024-25**
Branch: Cardiopulmonary		**Semester: 3rd semester**
1	Course Code	INC001
2	Course Title	Faculty Student Industry Connect (FSIC)
3	Credits	2
4	Contact Hours (L-T-P)	0-0-4
	Course Status	Compulsory
5	Course Objective	To create a platform to enhance the industry-academia interaction To give exposure to the industry to our faculty members and students To bridge the gap between industry and academia
6	Course Outcomes	CO1: Enhanced role of the university across industries in the form of knowledge creation, learning, training, consultancy CO2: To give real-time exposure to our faculties about industry environment CO3:Developing an understanding of various real-time problems, latest updates, technological advancements, and best practices of the industry CO4: Establishing corporate connections and strong networking CO5: To make our students industry-ready. CO6: To develop leadership, analytical skills
7	Course Description	The university offers a Faculty-Student Industry Connect (FSIC) course for the holistic development and empowerment of students and faculties to gain more practical insights and exposure to the industry. FSIC will support the curriculum by amplifying, supplementing, and filling in the gaps related to industry exposure, if any. In addition, FSIC will help students and faculty to enrich their knowledge and skills about the various practices of the industry by making industry visits, working on live projects with the industry, and solving the real-time problems of the industry.
8	Outline syllabus	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	3	-	-
CO2	2	3	2	3	2	3	2	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
CO6	3	3	2	3	3	2	3	3	-	2
Avg PO	2.67	2.83	2.33	3.00	2.67	2.50	2.50	2.83	3.00	2.00

Evaluation Scheme:

The evaluation scheme of the FSIC course will be as follows:

Continuous Evaluation (CE)	Industry Visit Report	Viva - Voce	Total
80 %	10 %	10 %	100 %

School: SSAHS		**Batch: 2023-25**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Cardiopulmonary		**III Semester**	
1	Course Code	CCU108	
2	Course Title	Community Connect	
3	Credits	2	
4	Contact Hours (L-T-P)	0-0-4	
	Course Type	Compulsory	
5	Course Objective	1. The objective of assigning the project related to community work is to expose our students to different social issues faced by the people in different sections of society. 2. This type of project work will help the students to develop better understanding of problems of people living in disadvantage position in the society, may be socially, medically, economically, or otherwise. 3. This type of live project work will help our students to connect their class-room learning with practical issues/problems in the society.	
6	Course Outcomes	Students will be able to: CO1: Students develop awareness of the social, health, and environmental challenges faced by the community C02: Students are more appreciative of socio-economic realities beyond textbooks and classrooms CO3: Students learn to apply their knowledge through research, awareness creation, and services for community benefit CO4: Students are able to carry out community-based projects with sincerity, teamwork and timely delivery CO5: Students learn to respectfully engage with communities with purposive intent to contribute to society and sustainable development C06: Students are able to document and present their community project findings in an academically robust manner	
7	Course Description	In Community Connect projects, students will learn how to identify problems of rural and underprivileged communities by conducting surveys, or will help the communities by providing services or solutions for the issues faced by them.	
8	Outline syllabus		CO Mapping
	Unit 1	Team/Group formation and Project Assignment.Problem Definition & Finalizing the problem statement,Resource requirement, if any.	CO1
	Unit 2	Develop a useful questionnaire or service to the community that will aid in achieving the objectives of the project.	CO2
	Unit 3	Learn how to interact with the community members, whether in survey or service-based project – to help develop a more open mindset in the students.	CO3
	Unit 4	Analysis of survey data and/or impact on the community members.	CO4
	Unit 5	Demonstrate and justify their findings in light of the data they have gathered, or show the benefits to the community of the actions they have taken.	CO5,CO6

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	3	1	-	-
CO2	3	3	3	1	1	2	2	3	-	-
CO3	3	3	2	3	3	3	3	1	2	2
CO4	2	2	2	-	1	-	-	3	3	3
CO5	1	1	2	3	3	2	2	3	3	3
CO6	1	1	1	2	2	3	3	3	3	3
Avg PO	2.17	2.17	2.17	2.40	2.00	2.40	2.60	2.33	2.75	2.75

School: SSAHS **Programme: MPT** **Branch: Cardiopulmonary**		**Batch: 2023-25** **Current Academic Year: 2024-25** **IV Semester**	
1.	Course Code	MPT 267	
2.	Course Title	Physiotherapy in Cardiopulmonary Conditions –II (Theory)	
3.	Credits	4	
4.	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the medical and surgical management of various conditions in pulmonary system.	
6.	Course Outcomes	CO1: Remembering the aetiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the pulmonary conditions. CO2: Understanding the basic concepts of assessment/ diagnostic tests of various pulmonary diseases/disorders. CO3: understanding the surgical procedures, their complications and management of pulmonary conditions CO4: Applying the principles of physiotherapy management in planning a comprehensive Pulmonary rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for Physiotherapy management of pulmonary conditions. CO6: Creating a customised pulmonary rehabilitation Programme for specific conditions.	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiovascular pathophysiology, surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Pulmonary Medicine (epidemiology, pathomechanics, clinical presentation, Diagnostic tests and medical management)**	
	A	Obstructive pulmonary disease, sleep apnoea, infections of respiratory system, TB	CO1, CO2
	B	Respiratory failure, pulmonary vascular diseases	CO1, CO2
	C	Diseases of pleura, ILD, ARDS	CO4, CO5,CO6
	Unit 2	**Pulmonary Surgeries (indications, contraindications, pre and post-surgical precautions and surgical management)**	
	A	Incisions for procedures in thoracic surgery: incisions on sternum, anterior and lateral chest wall, thoraco-abdominal including for procedures on diaphragm, mediastinum, and oesophagus.	CO4, CO5
	B	General thoracic surgery: surgery of mediastinum, trachea, bronchus, pleura and lungs	CO2, CO3
	C	Intercostal drainage, complications of pulmonary surgery	CO2, CO3
	Unit 3	**Cardiovascular physiotherapy and rehabilitation**	
	A	Definition of pulmonary rehabilitation and role of exercise in pulmonary conditions	CO4, CO5
	B	Outcome measures in pulmonary rehabilitation	CO2, CO4
	C	American Thoracic Society guidelines	CO4, CO5,CO6
	Unit 4	**Pulmonary rehabilitation**	
	A	General guidelines and preliminary considerations	CO1, CO2
	B	Assessment of pulmonary rehabilitation patient	CO5, CO6

	C	Disease- specific approaches in pulmonary rehabilitation			CO5,CO6
	Unit 5	**Special considerations**			
	A	Exercise assessment and training			CO5, CO6
	B	Scales used in pulmonary rehabilitation (becks depression inventory (BDI) and Hamilton Anxiety Scale(HAS), MMSE, SGRQ, SF-36, Activities-specific balance scale			CO5, CO6
	C	Patient education and skill training			CO5,CO6
	Mode of Examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Textbook/s*	1.Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2.Cash's TB in general medical and surgical condition for Physiotherapist- 2nd edDownie, PA 3.Physiotherapy for respiratory and cardiac problems : Adults And Paediatrics --3rd ed / 4th ed. Pryor, J A and Prasad, S Ammani 4. Pulmonary Rehabilitation Guidelines ATS 5. Cardio Pulmonary Physical Therapy 6th Ed Scoot Irwin			
	Other References	2. American association of cardiovascular and pulmonary rehabilitation guidelines			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3	3	2.17	2.5	2.5	1.75	2	2.83	2.83	1.25

School: SSAHS Programme: MPTBranch: Cardiopulmonary		Batch: 2023-25 Current Academic Year: 2024-25 IV Semester	
1.	Course Code	MPT 268	
2.	Course Title	Physiotherapy in Cardiopulmonary Conditions –II (Practical)	
3.	Credits	1	
4.	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	This course aims to study the examination and evaluation of cardiopulmonary system.	
6.	Course Outcomes	CO1: Remembering the aetiology, pathology, clinical features and medical or surgical management of various diseases/disorders affecting the pulmonary conditions. CO2: Understanding the basic concepts of assessment/ diagnostic tests of various pulmonary diseases/disorders. CO3: understanding the surgical procedures, their complications and management of pulmonary conditions CO4: Applying the principles of physiotherapy management in planning a comprehensive Pulmonary rehabilitation Programme. CO5: Evaluating the available treatment techniques and evidence based practice for Physiotherapy management of pulmonary conditions. CO6: Creating a customised pulmonary rehabilitation Programme for specific conditions.	
7.	Course Description	This course is to teach the students the basic elements of assessment that apply to all patients with a potential need for cardiovascular pathophysiology, surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Pulmonary Medicine (epidemiology, pathomechanics, clinical presentation, Diagnostic tests and medical management)**	
	A	To asses the pulmonary function in following conditions: Obstructive pulmonary disease, sleep apnea, infections of respiratory system, TB	CO1, CO2
	B	To evaluate the diagnostic tests for Respiratory failure, pulmonary vascular diseases, pleural disease, Interstitial lung disease, Acute respiratory distress syndrome	CO2, CO3, CO4,CO5,CO6
	Unit 2	**Pulmonary Surgeries (indications, contraindications, pre and post-surgical precautions and surgical management)**	
	A	To evaluate pulmonary function in thoracic surgery	CO1, CO2
	B	To evaluate the complications of pulmonary surgery	CO2, CO3, CO4, CO5,CO6
	Unit 3	**Cardiovascular physiotherapy and rehabilitation**	
	A	To plan the role of exercise in pulmonary conditions	CO1, CO2
	B	To evaluate the outcome measures in pulmonary rehabilitation	CO2, CO3, CO4, CO5,CO6
	Unit 4	**Pulmonary rehabilitation**	
	A	To plan phase wise rehabilitation for pulmonary patients	CO1, CO2
	B	To plan the specific approaches in pulmonary rehabilitation	CO2, CO3, CO4, CO5,CO6

	Unit 5	**Special considerations**			
	A	To perform exercise assessment and training for pulmonary rehabilitation			CO1, CO2
	B	To interpret the sScales used in pulmonary rehabilitation: (becks depression inventory (BDI) and Hamilton Anxiety Scale(HAS), MMSE,SGRQ, SF-36, Activities-specific balance scale			CO2, CO3, CO4, CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2. Electrodiagnosis in disease of muscle: Kumara ,Jim 3. Physiotherapy for respiratory and cardiac problems : Adults And Paediatrics --3rd edition / 4th ed. Pryor, J A and Prasad, S Ammani			
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	2	3	3	
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	2	2	2	2	3	3	1
CO4	3	3	2	3	3	1	2	3	3	1
CO5	3	3	2	3	3	2	2	3	3	1
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3	3	2.17	2.5	2.5	1.75	2	2.83	2.83	1.25

School: SSAHS **Programme: MPT** **Branch: Cardiopulmonary**		**Batch: 2023-2025** **Current Academic Year: 2024-25** **IV Semester**			
1.	Course Code	MPT 262			
2.	Course Title	Dissertation			
3.	Credits	18			
4.	Contact Hours (L-T-P)	0-0-36			
	Course Type	Compulsory			
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 types of research CO2: Understand about formulation of research protocol CO3:Apply research Methodology and skills to complete the research dissertation CO4: Analyse the data CO5: Evaluate the methods of scientific literature review and writing. CO6: Implement evidence based practice for research			
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.			
8.	Outline Syllabus				CO Mapping
	Unit 1	Introduction of subject/literature search			CO1,CO6
	Unit 2	Concept building and study design			CO2, CO6
	Unit 3	Experimentation			CO3, CO6
	Unit 4	Data collection, result analysis and discussion			CO4,CO6
	Unit 5	Report Writing			CO5, CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th edition Donna Frownfelter 2. Electrodiagnosis in disease of muscle: Kumara Jim 3. Physiotherapy for respiratory and cardiac problems : Adult and Paediatrics --3rd edition / 4th ed. Pryor, J A and Prasad, S Ammani			
	Other References	1 American association of cardiovascular and pulmonary rehabilitation guidelines			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	3	2	2	2	3
CO2	2	2	3	2	2	3	2	2	2	3
CO3	2	3	3	3	3	3	2	1	2	3
CO4	2	2	2	2	2	3	2	1	1	3
CO5	3	3	3	3	3	3	2	2	1	3
CO6	2	3	2	2	1	3	2	3	2	3
Avg PO	2.17	2.33	2.50	2.33	2.17	3.00	2.00	1.83	1.67	3.00

School: SSAHS **Programme: MPT** **Branch: Cardiopulmonary**		**Batch: 2023-25** **Current Academic Year: 2024-25** **IV Semester**	
1.	Course Code	MPT 269	
2.	Course Title	Clinical outcome and follow up in Cardiopulmonary Conditions	
3.	Credits	4	
4.	Contact Hours (L-T-P)	0-0-8	
	Course Type	SEC	
5	Course Objective	1. The objective of this course is , the student will be able to assess different condition due to cardiopulmonary dysfunction, set treatment goals and apply their skill. 2. Students will understand the role exercise therapy and use of different cardiopulmonary scales for outcome measures. 3. In addition, the student will be able to diagnose the conditions.	
6.	Course Outcomes	CO1: Be able to develop research based assessment skills to implement timely and appropriate physiotherapy assessment tools/techniques to ensure a holistic approach to patient evaluation in order to prioritize patient's problems. CO2: Be able to select timely research based physiotherapeutic interventions to reduce morbidity and physiotherapy management strategies, suitable for the patients' problems and indicator conditions based on the best available evidence based on different cardiopulmonary scales and measure the outcomes. CO3: Implement appropriate research based cardiopulmonary-physiotherapeutic techniques, electrotherapeutic modalities, joint and soft tissue mobilizations and ergonomic advice for cardiopulmonary patients. CO4:Be able to make diagnosis and differential diagnosis of different cardiac and pulmonary conditions CO5: Be able to develop behavioural skills and humanitarian approach while communicating with patients, relatives, society and co-professionals, to promote individual and community health. CO6: Be able to design rehabilitation Programme for patients	
7.	Course Description	The subject serves to integrate the knowledge gained by the students in cardio-vascular and pulmonary sciences with skills to apply these in clinical situations of dysfunction and cardiopulmonary pathology. The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify disabilities due to cardiopulmonary dysfunction, plan and set treatment goals and apply the skills gained in exercise therapy and electrotherapy in these clinical situations to restore cardiac functions and pulmonary capacity and measure the outcomes of treatment and predict the prognosis of patient.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**ASSESSMENT AND CONVENTIONAL OUTCOME MEAUSRES**	
	A	Required materials for examination, Chief complaints, History taking–Present, Past medical, family ,personal history ,Observation ,Palpation, Higher mental function Vitals, clubbing (schamorth sign, stages), cyanosis, JVP, oedema, chest examination(shape , breathing pattern, tracheal deviations, auscultation, percussion notes, fremitus) , physical examination, investigations	CO1, CO2

	B	Spirometry/ PFT Lung sounds (normal and adventitious)Sputum analysis Arterial blood gases Tests for Peripheral Arterial & Venous circulation Ankle Brachial Index	CO3, CO4
	C	Chest radiography ECG- (Normal & Variations in common pathologic conditions)	CO3, CO4
	Unit 2	EMERGING OUTCOME MEASURES	
	A	Computerised respiratory sounds Lung ultrasound	CO4, CO5
	B	Serum enzymes	CO2, CO3
	C	Inspiratory muscle strength Peak Flow Meter	CO2, CO3
	Unit 3	Cardio-pulmonary exercise testing	
	A	Sub Maximal exercise tests	CO4, CO5
	B	Maximal Exercise tests	CO2, CO4
	C	Objective measurement (VO2 gas analysis) Predictive formulas	CO4, CO5

	C	Chest radiography ECG- (Normal & Variations in common pathologic conditions)	CO3, CO4
	Unit 2	EMERGING OUTCOME MEASURES	
	A	Computerised respiratory sounds Lung ultrasound	CO4, CO5
	B	Serum enzymes	CO2, CO3
	C	Inspiratory muscle strength Peak Flow Meter	CO2, CO3
	Unit 3	Cardio-pulmonary exercise testing	
	A	Sub Maximal exercise tests	CO4, CO5
	B	Maximal Exercise tests	CO2, CO4
	C	Objective measurement (VO2 gas analysis) Predictive formulas	CO4, CO5
	Unit 4	**Subjective and objective SCALES**	
	A	Dysnea : Borg scale, Modified Borg scale , Dyspnea management Questionnaire, MRC	CO1, CO2
	B	HrQOL : SF-36, SF-12, SF-8, FIM, Activity measure for Post-Acute Care , Sickness Impact Profile , specific activity Questionnaire	CO2,CO3
	C	Angina : Seattle Angina Questionnaire ADL : Barthel Index	CO2,CO3, CO6
	Unit 5	**Outcome measures in specific conditions**	
	A	**COPD :** St. George's Respiratory Questionnaire (SGRQ), CRQ	CO2, CO4,CO5,CO6
	B	**Cystic fibrosis:** CF Quality of Life Questionnaire.	CO2, CO4,CO5,CO6
	C	**COVID-19:** COV19-QOL Peripheral arterial disease :ABI Heart failure :NYHA	CO2, CO4,CO5, CO6
	Mode of Examination	Practical	
	Weightage Distribution	CA: 25 / CE: 25 / ESE: 50	
	Textbook/s*	.Cardiovascular and Pulmonary Physical therapy: Evidence to practice --5th ed Doona Frown felter 2.Cash's TB in general medical & surgical condition for Physiotherapist- 2nd ed Downie, PA 3.Physiotherapy for respiratory and cardiac problems : Adults And Pediatrics --3rd ed / 4th ed. Pryor, J A &Prasad, S Ammani 4. Cardio- Pulmonary Rehabilitation Guidelines ATS, AHA, AACPVR, ETS 5. Cardio Pulmonary Physical Therapy 6th Ed Scoot Irwin	
	Other References	1. American association of cardiovascular and pulmonary rehabilitation guidelines	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	-	2	2	1	1	1	2	1	1
CO2	3	3	3	3	2	1	2	-	2	2
CO3	3	3	2	-	2	2	2	2	3	2
CO4	3	3	3	3	3	1	3	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3
CO6	3	3	3	3	3	2	3	3	3	-
Avg PO	2.83	3.00	2.67	2.80	2.33	1.50	2.33	2.60	2.50	2.20

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Sports		**II Semester**	
1	Course Code	MPT 148	
2	Course Title	Sports Biomechanics	
3	Credits	3	
4	Contact Hours (L-T-P)	3-0-0	
	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 sports specific biomechanics 4. To develop understanding about the methods of Somatotyping and Kinanthropometry	
6	Course Outcomes	CO1. Recalling about kinetics and its use in Physiotherapy CO2. Understand about kinematics and its use in Physiotherapy CO3. Analysing the mechanics of various joints in body CO4. Applying the concept of sports specific biomechanics CO5: Evaluating the methods of Somatotyping CO6: Creating the treatment plan on basis of biomechanics and Kinanthropometry	
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	**Kinetics and 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	**Regional Biomechanics**	
	A	Nature and importance of Biomechanics in Physiotherapy, Principle of Biomechanics	CO3,CO4
	B	Biomechanics of shoulder and shoulder complex, elbow complex, wrist and hand complex	CO3,CO4
	C	Biomechanics of pelvis, hip, knee, ankle and foot complex and spine	CO3,CO4
	Unit 4	**Sports Specific Biomechanics**	
	A	Biomechanics of running, rowing, throwing, swimming, jumping and cycling	CO3,CO4
	B	Biomechanics in cricket, Tennis, javelin throw and shotput	CO3,CO4
	C	Application in performance enhancements	CO3,CO4
	Unit 5	**Somatotyping and Kinanthropometry**	
	A	Introduction and significance of kinanthropometric knowledge in sports medicine, Age determination: Skeletal age, dental age	CO5, CO6
	B	Heath – Carter method of somatotyping: The rating scales, Kinanthropometric measurements, First, Second and Third Components, Somatotyping, Somatotype distribution, Growth maturation and performance	CO5, CO6

<table>
<tr><td></td><td>C</td><td colspan="3">Body composition : Different Body composition, various methods to estimate body composition including water displacement method, under water weighing methods Kinanthropometric detrmination 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.</td><td>CO5, CO6</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>MSE</td><td>ESE</td><td></td></tr>
<tr><td>25</td><td>25</td><td>50</td><td></td></tr>
<tr><td></td><td>Text book/s*</td><td colspan="3">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 and 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 and Levangie: Joint Structure and Function – A Comprehensive Analysis – F.A.Davis.
8. Kapandji: Physiology of Joints Vol. I, II and 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 and Groot: Biomechanics of Sports, CRL Press, Florida.
12. Basmajian – Muscle alive – Williams and Wilkins.
13. Nordin and Frankel – Basic Biomechanics of Muscular Skeletal Systm – Williams and Wilkins.
14. Bartlet – Introduction to Sports Biomechanics – F and FN Spon Madras.
Singh and Malhotra: Kinanthropometry, Lunar Publications
15. H.S. Sodhi: Sports Anthropometry (A Kinanthropometric Approach), Anova Publications</td><td></td></tr>
</table>

		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	1	2	-	-	-	1	1	-
CO2	3	2	1	2	-	-	-	1	1	-
CO3	2	2	3	3	2	1	1	2	3	2
CO4	2	2	3	3	2	1	1	2	3	2
CO5	1	1	2	2	2	-	2	1	1	2
CO6	1	1	2	2	2	-	2	1	1	2
Avg PO	2.00	1.67	2.00	2.33	2.00	1.00	1.50	1.33	1.67	2.00

School: SSAHS		**Batch: 2023-2025**	
Programme:MPT		**Current Academic Year: 2023-24**	
Branch: Sports		**II Semester**	
1	Course Code	MPT 149	
2	Course Title	Sports Physiotherapy Assessment (Theory)	
3	Credits	4	
4	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate about Field specific evaluations in sports 2. To explain about different screening methods and tests in sports 3. To develop understanding about the assessments in upper limbs 4: To analyse about the assessments in lower limbs 5: To interpret the assessment of spinal column 6: To elaborate about the assessment of gait pattern	
6	Course Outcomes	CO1. Recalling about field specific examination in sports CO2. Understand different screening methods and tests in sports CO3. Apply the assessment methods for upper and lower limb CO4: Analyse the assessment of spinal column CO5: Evaluating the gait patterns CO6: Formulate a diagnosis	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in 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 musculoskeletal and various other dysfunctions in sports.	
8	Outline syllabus		CO Mapping
	Unit 1	**Field Specific Evaluation**	
	A	Importance of assessment and evaluation	CO1, CO2
	B	Pre–participation examination	CO1, CO2
	C	On field vs Off-field Examination	CO1, CO2

	Unit 2	Musculoskeletal screening			
	A	Musculoskeletal screening			CO1, CO2
	B	Basic radiological analysis			CO1, CO2
	C	Evaluation of Physical Fitness, Field Tests			CO1, CO2
	Unit 3	Assessment of upper and lower limb complex			
	A	Shoulder girdle, shoulder, arm, Elbow			CO3, CO4
	B	Forearm, wrist and hand.			CO3, CO4
	C	Pelvis, hip,thigh, knee, leg, ankle and foot			CO3, CO4
	Unit 4	Assessment of spinal column			
	A	Cervical spine			CO5
	B	Thoracic and lumbosacral spine			CO5
	C	Deviations			CO5
	Unit 5	Gait Assessment			
	A	Analysis of gait pattern			CO6
	B	EMG evaluation			CO6
	C	Gait deviations			CO6
	Mode of examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Text book/s*	1.Norkin and 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 and Rucker: Handbook of Sports Medicine: A symptom – Oriented Approach, Butterworth and Heinemann 5. Baker: The Hughston Clinic Sports Medicine Book, Williams and Wilkins.			

	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	2	2	2
CO2	3	3	3	2	2	-	2	2	2	2
CO3	2	3	3	3	3	1	1	3	2	1
CO4	2	2	2	3	2	-	1	2	2	1
CO5	2	2	2	3	2	-	1	2	2	1
CO6	3	3	3	3	3	2	2	2	2	2
Avg PO	2.50	2.67	2.67	2.67	2.33	1.50	1.50	2.17	2.00	1.50

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Sports		**II Semester**	
1	Course Code	MPT 150	
2	Course Title	Advanced Physiotherapeutics in Sports	
3	Credits	3	
4	Contact Hours (L-T-P)	3-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate about Rehabilitation fundamentals 2. To explain about Strengthening Techniques 3. To develop understanding about Heart rate associated training 4: To analyse about different rehabilitation techniques 5: To interpret about different recent advancements in sports rehabilitation 6: To elaborate about different PT management protocols	
6	Course Outcomes	CO1. Recalling Rehabilitation fundamentals CO2. Understand about Strengthening Techniques CO3. Apply heart rate associated training CO4: Applying different rehabilitation techniques CO5: Evaluating different recent advancements in sports rehabilitation CO6: Creating different PT management protocols	
7	Course Description	The course will enable the students to gain knowledge of rehabilitation and therapeutic exercises in various sports injuries and conditions. This will help them to formulate and design physiotherapy treatment Programme following different 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
	B	Prehabilitation, Modern concepts in rehabilitation	CO1

	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
	Unit 2	**Strengthening Techniques**	
	A	Types of Muscle Contractions and Muscle work, Strength of Muscle Contraction in terms of Motor units, Groupaction of muscles and its implication in designing an exercise Programme.	CO1, CO2
	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
	C	Various methods of progressive resisted exercise, Aquatic therapy in sports.	CO1, 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	Application in different sports	CO3
	Unit 4	**Techniques in sports**	
	A	Functional Bandages and taping techniques	CO4, CO5
	B	Manual Therapy: Introduction to manual therapy techniques, Mulligan, Cyriax, Muscle energy techniques (MET), Soft tissue and Joint manipulations, Blood Flow Restriction Training (BFRT)	CO4, CO5
	C	Recent Advancement in Electrotherapy, plasma rich platelet therapy, Cryotherapy	CO4, CO5
	Unit 5	**Physiotherapy management in different conditions**	
	A	Physiotherapy management in upper limb conditions	CO4, CO6
	B	Physiotherapy management in lower limb conditions	CO4, CO6
	C	Physiotherapy management in miscellaneous conditions	CO4, CO6
	Mode of examination	Theory	

		CA	MSE	ESE	
	Weightage Distribution	25	25	50	
	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 and Wilkins. 5. Thomson et al –Tidy's Physiotherapy: Butterworth – Heinmann. 6. Wood and Baker: Beard's Massage, W.B. Saunders. 7. Kendall: Muscles – Testing and Function – Williams and 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. Voss et al – Proprioceptive Neuromuscular Facilitation – Patterns and Techniques – Williams and Wilkins.		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	2	2	2	-	-	2	2	-
CO2	3	2	3	3	2	-	1	2	2	2
CO3	3	2	3	3	2	-	1	2	2	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	2	3	3	2	2	1	2	2	1
CO6	3	3	3	3	3	2	2	2	2	2
Avg PO	3.00	2.33	2.83	2.83	2.33	2.00	1.40	2.00	2.00	1.80

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Sports		**II Semester**	
1	Course Code	MPT 151	
2	Course Title	Sports Physiotherapy Assessment (Practical)	
3	Credits	1	
4	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	1. To educate about Field specific evaluations in sports 2. To explain about different screening methods and tests in sports 3. To develop understanding about the assessments in upper limbs 4: To analyse about the assessments in lower limbs 5: To interpret the assessment of spinal column 6: To elaborate about the assessment of gait pattern	
6	Course Outcomes	CO1. Recalling about field specific examination in sports CO2. Understand different screening methods and tests in sports CO3. Apply the assessment methods for upper and lower limb CO4: Analyse the assessment of spinal column CO5: Evaluating the gait patterns CO6: Formulate a diagnosis	
7	Course Description	This course supplements the knowledge of assessment and diagnosis in 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 musculoskeletal and various other dysfunctions in sports.	
8	Outline syllabus		CO Mapping
	Unit 1	**Field Specific Evaluation**	
	1	To perform pre-participation examination	CO1, CO2
	2	To perform on field and off-field examination	CO1, CO2

	Unit 2	**Musculoskeletal screening**			
	A	To explain musculoskeletal & radiological screening process			CO1, CO2, CO6
	B	To demonstrate Physical Fitness & Field Tests			CO1, CO2, CO6
	Unit 3	Assessment of upper and lower limb complex			
	A	To assess upper limb complex			CO3, CO6
	B	To assess lower limb complex			CO3, CO6
	Unit 4	Assessment of spinal column			
	A	To perform assessment of cervical spine and its deviations			CO4,CO6
	B	To explain assessment of thoracic and lumbosacral spine and its deviations			CO4, CO6
	Unit 5	Gait Assessment			
	A	To determine gait analysis and gait deviations			CO5,CO6
	B	To evaluate EMG activity during gait			CO5, CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1.Norkin and 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: SportsInjuries – Assessment and Rehabilitation, W.B. Saunders. 4. Lillegard, Butcher and Rucker: Handbook of Sports Medicine: A symptom – Oriented Approach, Butterworth and Heinemann			
	Other References	Baker: The Hughston Clinic Sports Medicine Book, Williams and Wilkin			

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	-	2	2	2	2
CO2	3	3	3	2	2	-	2	2	2	2
CO3	2	3	3	3	3	1	1	3	2	1
CO4	2	2	2	3	2	-	1	2	2	1
CO5	2	2	2	3	2	-	1	2	2	1
CO6	3	3	3	3	3	2	2	2	2	2
Avg PO	2.50	2.67	2.67	2.67	2.33	1.50	1.50	2.17	2.00	1.50

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Sports		**II Semester**	
1	Course Code	MPT 152	
2	Course Title	Advanced Physiotherapeutics in Sports (Practical)	
3	Credits	1	
4	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	1. To educate about Rehabilitation fundamentals 2. To explain about Strengthening Techniques 3. To develop understanding about Heart rate associated training 4: To analyse about different rehabilitation techniques 5: To interpret about different recent advancements in sports rehabilitation 6: To elaborate about different PT management protocols	
6	Course Outcomes	CO1. Recalling Rehabilitation fundamentals CO2. Understand about Strengthening Techniques CO3. Apply heart rate associated training CO4: Applying different rehabilitation techniques CO5: Evaluating different recent advancements in sports rehabilitation CO6: Creating different PT management protocols	
7	Course Description	The course will enable the students to gain knowledge of rehabilitation and therapeutic exercises in various sports injuries and conditions. This will help them to formulate and design physiotherapy treatment Programme following different sports injuries.	
8	Outline syllabus		CO Mapping
	Unit 1	**Rehabilitation and Therapeutic Exercises**	
	A	To perform region wise joint mobilization	CO1
	B	To test for tightness and contracture of soft–tissue structures	CO1

	Unit 2	**Strengthening Techniques**			
	A	To interpret group action of muscles and its implication in designing an exercise Programme.			CO1, CO2
	B	To demonstrate techniques of strengthening and methods of progressive resisted exercise with respect to regional consideration.			CO1, CO2
	Unit 3	**Precision heart rate training**			
	A	To explain heart rate monitoring and training			CO3
	B	To explain Precision heart rate training and training zones			CO3
	Unit 4	**Techniques in sports**			
	A	To apply functional bandaging and taping techniques			CO4, CO5
	B	To demonstrate following sports techniques: Manual Therapy techniques, MET, Blood flow restriction training techniques & recent advancements in electrotherapy			CO4, CO5
	Unit 5	**Physiotherapy management in different conditions**			
	A	To demonstrate physiotherapy management for upper limb and lower limb conditions			CO4, CO6
	B	To perform physiotherapy in miscellaneous conditions			CO4, CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	

	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 and Wilkins. 5. Thomson et al –Tidy's Physiotherapy: Butterworth – Heinmann. 6. Wood and Baker: Beard's Massage, W.B. Saunders. 7. Kendall: Muscles – Testing and Function – Williams and 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. Voss et al – Proprioceptive Neuromuscular Facilitation – Patterns and Techniques – Williams and Wilkins.	
	Other References	1. Norkin and White: Measurement of Joint Motion – A Guide to Goniometry – F.A. Davis. 13. Andrea Bates and Norm Hanson: Aquatic Exercise Therapy, W.B. Saunders. 2. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders. 3. Hartley: Practical Joint Assessment, A Sports Medicine Manual, upper and lower quadrants, C.V. Mosby. 4. Kennedy: Mosby's Sports Therapy Taping Guide. 5. Malone: Orthopeadic and Sports Physical Therapy, C.V. Mosby. 6. Albert: Eccentric Muscle Training in Sports and Orthopeadics, W.B. Saunders.	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	2	2	2	2	-	-	2	2	-
CO2	3	2	3	3	2	-	1	2	2	2
CO3	3	2	3	3	2	-	1	2	2	2
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	2	3	3	2	2	1	2	2	1
CO6	3	3	3	3	3	2	2	2	2	2
Avg PO	3.00	2.33	2.83	2.83	2.33	2.00	1.40	2.00	2.00	1.80

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School: SSAHS		**Batch :2023-25**	
Programme: MPT		**Current Academic Year: 2023-24**	
Branch: Sports		**Semester:2nd**	
1	Course Code	MPT 153	
2	Course Title	Clinical Reasoning in Sports Conditions -I	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of history, diagnosis, and interpretation of clinical reasoning in medical & surgical conditions in sports.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: To remember the concept of clinical reasoning in athletic conditions. CO2: To understand the athletic assessment based on the clinical reasoning. CO3: To analyse the examination and evaluation in different sports CO4: To apply the concepts of clinical reasoning for interpretations of differential diagnosis. CO5: To implement the clinical reasons for formulating treatment goals. CO6: To design treatment plan on the basis of clinical reasoning	
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in medical & surgical conditions in sports.	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to clinical reasoning**	
	A	Background	CO1
	B	Problem oriented reasoning in sports	CO1
	C	Clinical reasoning approaches	CO1
	Unit 2	Athletic Assessment and Evaluation	
	A	History Taking	CO2
	B	Observation	CO2
	C	Evaluation	CO2
	Unit 3	Sports Specific Examination	
	A	Special Test	CO2, CO3
	B	Clinical Criteria	CO2, CO3
	C	Guidelines	CO2, CO3
	Unit 4	Diagnosis and clinical decision making	
	A	Differential Diagnosis	CO4
	B	Functional diagnosis in different sports	CO4
	C	Clinical Presentations in various athletic pathologies	CO4
	Unit 5	**Implementations for goals planning**	
	A	Clinical reasoning for short term & goal term goals	CO5, CO6
	B	Athlete and family education.	CO5, CO6
	C	Case presentation & discussion	CO5, CO6
	Mode of examination	Practical	

	Weight age Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1.Kisner and Colby: Therapeutic Exercises – Foundations and Techniques, F.A. Davis. 2.Basmajian John V.: Therapeutic Exercise, Williams andWilkins. 3. Thomson et al –Tidy's Physiotherapy: Butterworth – Heinmann.			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	-	2	2	2	-
CO2	3	3	2	3	2	-	2	2	2	-
CO3	3	3	3	3	2	2	2	3	3	1
CO4	3	3	2	3	3	2	2	3	3	2
CO5	3	3	2	3	3	2	3	3	2	2
CO6	3	2	3	3	2	1	3	3	3	3
Avg PO	3.00	2.83	2.33	3.00	2.33	1.75	2.33	2.67	2.50	2.00

School: SSAHS Programme: MPT Branch: Sports		Batch: 2023-2025 Current Academic Year: 2023-24 II Semester	
1.	Course Code	MPT 154	
2.	Course Title	Clinical Skills in Sports Physiotherapy - I	
3.	Credits	3	
4.	Contact Hours (L-T-P)	0-0-6	
	Course Type	Practical	
5	Course Objective	This course aims to study the clinical and on-field skills required in sports injury management & rehabilitation	
6.	Course Outcomes	CO1: Gain knowledge about sports assessment CO2: Apply learning skills in training & recent electrotherapy advancements CO3: Develop the skill to identify various sports training techniques CO4: Methods of application of various tools in sports rehabilitation CO5: Learn various clinical techniques of rehabilitation CO6: Introduction to safety in sports training	
7.	Course Description	The course will teach the students the basic elements of skills that apply to all patients & athletes with a potential need for surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	Sports Assessment	
	A	Musculoskeletal Screening	CO1, CO2
	B	Neurological examination	CO1, CO2
	C	Unconscious athlete	CO4, CO5,CO6
	Unit 2	Strengthening Techniques	
	A	Determination of 1 RM	CO4, CO5
	B	Techniques of strengthening with respect to regional consideration	CO2, CO3
	C	Progressive resisted exercise, Aquatic therapy in sports	CO2, CO3
	Unit 3	Techniques in sports	
	A	Demonstration of Functional Bandages & taping techniques	CO4, CO5
	B	Introduction to Recent Advancement in Electrotherapy, plasma rich platelet therapy	CO2, CO4
	C	Demonstration of manual therapy techniques, Mulligan, Cyriax, Muscle energy techniques (MET), Soft tissue & Joint manipulations, Blood Flow Restriction Training (BFRT)	CO4, CO5,CO6
	Unit 4	Fundamentals of Training	
	A	Introduction to Principles of training	CO1, CO2
	B	Demonstration of Types of training	CO5, CO6
	C	Demonstration of Progressive resistance techniques	CO5,CO6
	Unit 5	**Safety in Sports Training**	
	A	Introduction to Importance of safety	CO5, CO6
	B	Demonstration of Prevention strategies	CO5, CO6

	C	Presentation of Protective equipments			CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Textbook/s*	1. ACSM's Foundations of Strength Training and Conditioning Book by Nicholas A. Ratamess 2. Essentials of Strength Training and Conditioning by National Strength & Conditioning Associa Greg Haff G.Gregory Haff N. Travis Triplett 3. Textbook of Mobilization techniques by B. Mulligan 4. Textbook of Sports Medicine by K. Khan			
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	-	2	3	3	3
CO2	2	3	2	3	2	-	2	2	3	2
CO3	2	2	3	3	2	1	2	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	2	2	3	3	2	1	-	3	3	1
CO6	2	1	1	1	-	2	3	3	3	2
Avg PO	2.33	2.33	2.17	2.67	2.40	1.50	2.40	2.83	3.00	2.00

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Sports		**III Semester**	
1	Course Code	MPT 255	
2	Course Title	Physiotherapy in Sports related Conditions-I	
3	Credits	4	
4	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate about different sports related conditions 2.To develop understanding about physiotherapy in sports injuries of upper limb and exercise prescription in different categories explain about obesity management 3. To develop understanding about physiotherapy in sports injuries of lower limb 4: To analyze about exercise prescription in different conditions and formulate rehabilitation Programme for sports specific injuries	
6	Course Outcomes	CO1. To recall about physiotherapy management for sports injuries of upper limb CO2. To understand about physiotherapy management for sports injuries of lower limb CO3. To apply physiotherapy following sports infections CO4: To apply exercise prescription in cardiopulmonary conditions CO5: To evaluate exercise prescription in specific conditions CO6: To create rehabilitation Programme for sports specific injuries	
7	Course Description	This course is designed to develop and enhance the knowledge about various sports related conditions. The course will enable the student to apply physiotherapy and various methods of exercise prescription for sports related conditions	
8	Outline syllabus		CO Mapping
	Unit 1	**Physiotherapy for upper limb injuries**	

	A	Physiotherapy management for shoulder joint injuries			CO1
	B	Physiotherapy management for Elbow joint injuries			CO1
	C	Physiotherapy management for wrist and hand injuries			CO1
	Unit 2	**Physiotherapy for lower limb injuries**			
	A	Physiotherapy management for pelvis and hip joint injuries			CO2
	B	Physiotherapy management for Knee joint injuries			CO2
	C	Physiotherapy management for ankle and foot injuries			CO2
	Unit 3	**Physiotherapy following Infections in Sports**			
	A	Illness, Infections, Hypertension, Urine abnormalities; Venereal Diseases; G.I.T. Diseases			CO3
	B	Diagnosis and management of skin conditions of Athletes			CO3
	C	Bacterial infections, Fungal infections, Viral infections, boils and cellulitis.			CO3
	Unit 4	**Exercise Prescription for cardiopulmonary conditions**			
	A	Exercise prescription for management of obesity			CO4,CO6
	B	Exercise and Common Pulmonary Conditions : Exercise induced bronchial obstruction, Exercise in chronic airway obstruction, Air pollution and exercise			CO4,CO6
	C	Exercise and Cardiac Conditions : Exercise prescription for heart disease, Exercise in primary prevention in ischemic heart disease			CO4,CO6
	Unit 5	**Exercise Prescription for Specific Conditions**			
	A	Diabetes and Exercise: Exercise in diabetic patients			CO5, CO6
	B	Exercise prescription for adolescent and older athletes			CO5, CO6
	C	Exercise in pregnancy and post-partum			CO5, CO6
	Mode of examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	

	Text book/s*	1. Morris B. Mellion: Office Sports Medicine, Hanley and Belfus. 2. Richard B. Birrer: Sports Medicine for the Primary Care Physician, CRC Press. 3. Torg, Welsh and 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 AthlESE, 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 and 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 PESErson 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	2	2	2	-	1	3	3	-
CO2	3	3	2	2	2	-	2	3	3	1
CO3	3	3	2	2	2	2	2	3	3	2
CO4	3	3	2	3	3	2	2	3	3	2
CO5	3	3	2	3	3	2	2	3	3	-
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.00	2.50	2.50	2.00	1.83	2.83	2.83	1.75

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Sports		**III Semester**	
1	Course Code	MPT 256	
2	Course Title	Sports Traumatology	
3	Credits	4	
4	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate about acute and overuse injuries of upper limbs 2. To explain about acute and overuse injuries of lower limbs 3. To develop understanding about the injuries related to Head 4: To analyse the injuries related to Spine 5: To interpret different sports emergencies 6: To elaborate about different sports conditions	
6	Course Outcomes	CO1. Recalling acute and overuse injuries of upper limbs CO2. Understand about acute and overuse injuries of lower limbs CO3. Understanding the injuries related to Head CO4: Applying the knowledge of injuries related to Spine CO5: Evaluating different sports emergencies CO6: Creating the understanding about different sports conditions	
7	Course Description	This course is designed to develop and enhance the knowledge about various traumatic 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	**Acute and Overuse injuries of upper limbs**	
	A	Causes and Mechanism of Sports Injuries, prevention of sports injuries	CO1
	B	Common acute and overuse injuries of Shoulder girdle, Shoulder, Arm	CO1
	C	Common acute and overuse injuries of Elbow, Forearm, Wrist and hand	CO1

	Unit 2	**Acute and Overuse injuries of lower limbs**	
	A	Causes and Mechanism of Sports Injuries, prevention of sports injuries	CO2
	B	Common acute and overuse injuries of Pelvis, hip, thigh	CO2
	C	Common acute and overuse injuries of knee, leg, ankle and foot	CO2
	Unit 3	**Injuries of Head and Spine**	
	A	Causes and Mechanism of Sports Injuries, prevention of sports injuries	CO3, CO4
	B	Common acute and overuse injuries of Spine	CO3, CO4
	C	Common acute and overuse injuries of Head	CO3, CO4
	Unit 4	Sports emergencies and specific injuries in sports	
	A	Sporting emergencies and first aid	CO5, CO6
	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.	CO5, CO6
	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 and Field ii. Team events: Hockey, Cricket, Football etc. iii. Contact and Non–contact sports iv. Water Sports	CO5, CO6
	Unit 5	**Specific 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.	CO5, CO6
	B	Common Diseases: Common Cold, Diarrhoea, Dysentery, Typhoid, Cholera, Amoebiasis, Food	CO5, CO6

		Poisoning, Tuberculosis, Malaria, Hepatitis etc, AIDSin sports people.			
	C	Rheumatology and Geriatric Disorder: Rheumatoid arthritis, SLE and Juvenile Rheumatoid Arthritis, Ankylosing Spondylitis, Rheumatology out patient clinic, Osteoarthrosis and other geriatric conditions.			CO5, CO6
	Mode of examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	
	Text book/s*	1. Morris B. Mellion: Office Sports Medicine, Hanleyand Belfus. 2. Richard B. Birrer: Sports Medicine for the Primary Care Physician, CRC Press. 3. Torg, Welsh and Shephard: Current Therapy inSports 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 AthlESE, 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 and 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.	
	Other References	1. Scuderi, McCann, Bruno: Sports Medicine – Principles of Primary Care, Mosby. 2.Lars Peterson and Per Renstron: Sports Injuries – Their prevention and treatment, Dunitz.	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	-	1	-	-	-	-	2	-
CO2	3	3	-	1	-	-	-	-	2	-
CO3	3	3	3	2	2	3	2	3	3	2
CO4	3	3	2	3	3	2	2	3	3	2
CO5	3	3	2	3	3	2	2	3	3	2
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.25	2.17	2.75	2.25	2.00	2.75	2.50	2.00

School: SSAHS		**Batch: 2023-2025**
Programme: MPT		**Current Academic Year: 2024-25**
Branch: Sports		**III Semester**
1	Course Code	MPT 257
2	Course Title	Physiotherapy in Sports related Conditions-I (Practical)
3	Credits	1
4	Contact Hours (L-T-P)	0-0-2
	Course Type	Compulsory
5	Course Objective	1. To educate about different sports related conditions 2.To develop understanding about physiotherapy in sports injuries of upper limb and exercise prescription in different categories explain about obesity management 3. To develop understanding about physiotherapy in sports injuries of lower limb 4: To analyze about exercise prescription in different conditions and formulate rehabilitation Programme for sports specific injuries
6	Course Outcomes	CO1. To recall about physiotherapy management for sports injuries of upper limb CO2. To understand about physiotherapy management for sports injuries of lower limb CO3. To apply physiotherapy following sports infections CO4: To apply exercise prescription in cardiopulmonary conditions CO5: To evaluate exercise prescription in specific conditions CO6: To create rehabilitation Programme for sports specific injuries
7	Course Description	This course is designed to develop and enhance the knowledge about various sports related conditions. The course will enable the student to apply physiotherapy and various methods of exercise prescription for sports related conditions
8	Outline syllabus	CO Mapping

	Unit 1	**Physiotherapy management for upper limb**			
	A	To plan physiotherapy management for shoulder joint injuries			CO1, CO6
	B	To plan physiotherapy management for Elbow, forearm, wrist and hand injuries			CO1, CO6
	Unit 2	**Physiotherapy for lower limb injuries**			
	A	To plan physiotherapy management for pelvis and hip joint injuries			CO2, CO6
	B	To plan physiotherapy management for knee, ankle and foot injuries			CO2, CO6
	Unit 3	**Physiotherapy following Infections in Sports**			
	A	To identify illness and infections in sports			CO3,CO6
	B	To demonstrate management of skin conditions of athletes			CO3,CO6
	Unit 4	**Exercise Prescription for cardiopulmonary conditions**			
	A	To formulate exercise prescription for management of obesity			CO4,CO6
	B	To formulate Exercise for Common Pulmonary Conditions and Cardiac conditions			CO4,CO6
	Unit 5	**Exercise Prescription for Specific Conditions**			
	A	To demonstrate exercise for diabetic patients			CO5, CO6
	B	To demonstrate exercise for adolescent, older athletes and pregnancy			CO5, CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	

	Text book/s*	1. Morris B. Mellion: Office Sports Medicine, Hanley and Belfus. 2. Richard B. Birrer: Sports Medicine for the Primary Care Physician, CRC Press. 3. Torg, Welsh and 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 AthlESE, 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 and 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.	

	Other References	Scuderi, McCann, Bruno: Sports Medicine –Principles of Primary Care, Mosby. . Lars Peterson and Per Renstron: Sports Injuries – Their prevention and treatment, Dunitz.	

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	1	3	3	-
CO2	3	3	2	2	2	-	2	3	3	1
CO3	3	3	2	2	2	2	2	3	3	2
CO4	3	3	2	3	3	2	2	3	3	2
CO5	3	3	2	3	3	2	2	3	3	-
CO6	3	3	2	3	3	2	2	2	2	2
AvgCO	3.00	3.00	2.00	2.50	2.50	2.00	1.83	2.83	2.83	1.75

School: SSAHS		**Batch :2023-25**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Sports		**III Semester**	
1	Course Code	MPT 258	
2	Course Title	Clinical reasoning in Sports conditions -II	
3	Credits	3	
4	Contact Hours (L-T-P)	0-0-6	
	Course Type	Compulsory	
5	Course Objective	The student will be able to understand the concepts of history, diagnosis, and interpretation of clinical reasoning in on field & off field conditions in sports.	
6	Course Outcomes	At the end of the course, the student will be able to CO1: To recall the concept of clinical reasoning in athletic conditions. CO2: To demonstrate athletic assessment based on the clinical reasoning. CO3: To apply the examination and evaluation in different sports CO4: To infer the need and interpretations of differential diagnosis. CO5: To determine the clinical reasons for formulating treatment goals. CO6: To create the diagnosis and assessment of different sports conditions	
7	Course Description	The course is designed to develop the basic knowledge about the concept of clinical reasoning in on field & off field conditions in sports.	
8	Outline syllabus		CO Mapping
	Unit 1	**Introduction to clinical reasoning**	
	A	Background	CO1
	B	Problem oriented reasoning in sports	CO1
	C	Clinical reasoning approaches	CO1
	Unit 2	**Athletic Assessment and Evaluation**	
	A	History Taking	CO2
	B	Observation	CO2
	C	Evaluation	CO2
	Unit 3	**Sports Specific Examination**	
	A	Special Test	CO3
	B	Clinical Criteria	CO3
	C	Guidelines	CO3
	Unit 4	**Diagnosis and clinical decision making**	
	A	Differential Diagnosis	CO4, CO6
	B	Functional diagnosis in different sports	CO4, CO6
	C	Clinical Presentations in various athletic pathologies	CO4, CO6
	Unit 5	**Implementations for goals planning**	
	A	Clinical reasoning for short term & long term goals	CO5, CO6
	B	Athlete and family education.	CO5, CO6
	C	Case presentation & discussion	CO5, CO6
	Mode of examination	Practical	

		CA	CE	ESE	
	Weight age Distribution	25	25	50	
	Text book/s*	Clinical Practices			

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	-	2	2	2	-
CO2	3	3	2	3	2	-	2	2	2	-
CO3	3	3	3	3	2	2	2	3	3	1
CO4	3	3	2	3	3	2	2	3	3	2
CO5	3	3	2	3	3	2	3	3	2	2
CO6	3	2	3	3	2	1	3	3	3	3
Avg PO	3.00	2.83	2.33	3.00	2.33	1.75	2.33	2.67	2.50	2.00

School: SSAHS Programme: MPT Branch: Sports		Batch: 2023-2025 Current Academic Year: 2024-25 III Semester	
1.	Course Code	MPT 259	
2.	Course Title	Clinical Skills in Sports Physiotherapy – II	
3.	Credits	4	
4.	Contact Hours (L-T-P)	0-0-8	
	Course Type	Practical	
5	Course Objective	This course aims to study the clinical and on-field skills required in sports injury management & rehabilitation	
6.	Course Outcomes	On completion of the course the students will be able to: CO1: Recall the fundamentals of sports testing CO2: Understand the concepts of fitness testing CO3: Apply the principles of training CO4: Recommend the training Programmes for strength, endurance CO5: Evaluate the effects of training CO6: Formulate the protocols for different populations	
7.	Course Description	This course is to teach the students the basic elements of skills that apply to all patients & athletes with a potential need for surgical and medical management and rehabilitation.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**Athletic Assessment & Evaluation**	
	A	Introducing Fundamentals of testing	CO1, CO2
	B	Demonstration of Sports specific Fitness variables testing	CO1, CO2
	C	Introduction to Psychological Analysis (Pre-Post event)	CO4, CO5,CO6
	Unit 2	**Fitness Analysis**	
	A	Introduction to fitness variables	CO4, CO5
	B	Demonstration of fitness variables testing	CO2, CO3
	C	Analysis of BMI, Body Fat Percentage	CO2, CO3
	Unit 3	**Periodization**	
	A	Introduction to Fundamentals of periodization	CO4, CO5
	B	Introduction to Phases of periodization, Tapering	CO2, CO4
	C	Presentation of Athletic training log	CO4, CO5,CO6
	Unit 4	**Programme Designing**	
	A	Demonstration of Programme Designing fundamentals	CO1, CO2
	B	Demonstration of Programme design for strength & power training training	CO5, CO6
	C	Demonstration of Programme design for endurance, speed & agility training	CO5,CO6
	Unit 5	**Programme design for Plyometric training**	
	A	Demonstration of Types of plyometric training drills & concepts	CO5, CO6
	B	Introduction to Protocol designing for amateur & elite players	CO5, CO6

	C	Introduction to Special Considerations among different populations			CO5,CO6
	Mode of Examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Other References				

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	-	2	3	3	3
CO2	2	3	2	3	2	-	2	2	3	2
CO3	2	2	3	3	2	1	2	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	2	2	3	3	2	1	-	3	3	1
CO6	2	1	1	1	-	2	3	3	3	2
Avg PO	2.33	2.33	2.17	2.67	2.40	1.50	2.40	2.83	3.00	2.00

School: SSAHS		**Batch: 2023-25**
Programme: MPT		**Current Academic Year: 2024-25**
Branch: Sports		**III Semester**
1	Course Code	CCU108
2	Course Title	Community Connect
3	Credits	2
4	Contact Hours (L-T-P)	0-0-4
	Course Type	Compulsory
5	Course Objective	1. The objective of assigning the project related to community work is to expose our students to different social issues faced by the people in different sections of society. 2. This type of project work will help the students to develop better understanding of problems of people living in disadvantage position in the society, may be socially, medically, economically, or otherwise. 3. This type of live project work will help our students to connect their class-room learning with practical issues/problems in the society.

6	Course Outcomes	Students will be able to: CO1: Students develop awareness of the social, health, and environmental challenges faced by the community C02: Students are more appreciative of socio-economic realities beyond textbooks and classrooms CO3: Students learn to apply their knowledge through research, awareness creation, and services for community benefit CO4: Students are able to carry out community-based projects with sincerity, teamwork and timely delivery CO5: Students learn to respectfully engage with communities with purposive intent to contribute to society and sustainable development C06: Students are able to document and present their community project findings in an academically robust manner	
7	Course Description	In Community Connect projects, students will learn how to identify problems of rural and underprivileged communities by conducting surveys, or will help the communities by providing services or solutions for the issues faced by them.	
8	Outline syllabus		CO Mapping
	Unit 1	Team/Group formation and Project Assignment. Problem Definition & Finalizing the problem statement, Resource requirement, if any.	CO1
	Unit 2	Develop a useful questionnaire or service to the community that will aid in achieving the objectives of the project.	CO2
	Unit 3	Learn how to interact with the community members, whether in survey or service-based project – to help develop a more open mindset in the students.	CO3
	Unit 4	Analysis of survey data and/or impact on the community members.	CO4
	Unit 5	Demonstrate and justify their findings in light of the data they have gathered, or show the benefits to the community of the actions they have taken.	CO5,CO6

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	3	2	2	3	1	-	-
CO2	3	3	3	1	1	2	2	3	-	-
CO3	3	3	2	3	3	3	3	1	2	2
CO4	2	2	2	-	1	-	-	3	3	3
CO5	1	1	2	3	3	2	2	3	3	3
CO6	1	1	1	2	2	3	3	3	3	3
Avg PO	2.17	2.17	2.17	2.40	2.00	2.40	2.60	2.33	2.75	2.75

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Sports		**IV Semester**	
1	Course Code	MPT 270	
2	Course Title	Physiotherapy in Sports related Conditions-II	
3	Credits	4	
4	Contact Hours (L-T-P)	4-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To educate about different sports related conditions 2. To develop understanding about physiotherapy in sports injuries of head,face and spine 3. To develop understanding about management of sports emergencies 4: To analyze about exercise prescription in different conditions and formulate rehabilitation Programme for sports specific injuries	
6	Course Outcomes	CO1: Recall about physiotherapy in sports injuries of head ,face and spine CO2: Understand about physiotherapy management for sports emergencies CO3. Apply the principles of training for rehabilitation of sports injuries CO4. Analyse the training in different environments CO5: Evaluate the role pf psychology in sports performance CO6: Design a treatment plan for rehabilitation of sports injuries.	
7	Course Description	The students will be able to understand the concepts of physiotherapy and knowledge of training principles in the management of sports injuries along with rehabilitation	
:8	Outline syllabus		CO Mapping
	Unit 1	**Injuries of head , face and spine and their Physiotherapy management**	
	A	Head Injuries: Haemorrhages, concussion, fractures	CO1
	B	Eye injuries: Hyphema, Conjunctivitis, cuts, lacerations Nose Injuries: Epistaxis, nasal fractures,	CO1

		Mouth and Jaw injury: Jaw Fractures, Temporomandibular joint injury			
	C	Spine injuries: Fractures, Spondylolysis, spondylolisthesis			CO1
	Unit 2	**Sports Emergencies and their management**			
	A	Bleeding, Shock, Epistaxis, tooth avulsion			CO2
	B	Medical management of mass events			CO2
	C	Splinting and bracing, Protective equipments and Prevention strategies			CO2
	Unit 3	**Rehabilitation of sports injuries**			
	A	Prehabilitation, Rehabilitation and its goals			CO3, CO6
	B	Regaining ROM, posture, balance and core stability			CO3, CO6
	C	Regaining muscle strength, power, endurance and cardiorespiratory fitness using training principles and periodization			CO3, CO6
	Unit 4	**Training in different environments**			
	A	Physiological responses to exercises			CO4, CO6
	B	High Altitude Training, Heat illness, heat stroke			CO4, CO6
	C	Sports Diving, Hazards of underwater environment			CO4, CO6
	Unit 5	**Sports Psychology**			
	A	Role of goal setting, attention, perception, emotions and motivation in sports			CO5
	B	Pre competition Anxiety, aggression and eating disorders in athletes			CO5
	C	Stress management principles and techniques- Mental Imagery, Biofeedback			CO5
	Mode of examination	Theory			
	Weightage Distribution	CA	MSE	ESE	
		25	25	50	

	Text book/s*	1. ACSM's Foundations of Strength Training and Conditioning Book by Nicholas A. Ratamess 2. Essentials of Strength Training and	
		Conditioning by National Strength & Conditioning Associa Greg Haff G.Gregory Haff N. Travis Triplett	
	Other References		

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	3	-	2	3	3	-
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	3	2	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	2	3	3	2
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.67	2.67	2.00	2.33	2.83	2.83	2.00

School: SSAHS		**Batch: 2023-2025**	
Programme: MPT		**Current Academic Year: 2024-25**	
Branch: Sports		**IV Semester**	
1	Course Code	MPT 271	
2	Course Title	Physiotherapy in Sports related Conditions-II (Practical)	
3	Credits	1	
4	Contact Hours (L-T-P)	0-0-2	
	Course Type	Compulsory	
5	Course Objective	1. To educate about different sports related conditions 2. To develop understanding about physiotherapy in sports injuries of head,face and spine 3. To develop understanding about management of sports emergencies 4: To analyze about exercise prescription in different conditions and formulate rehabilitation Programme for sports specific injuries	
6	Course Outcomes	CO1: Recall about physiotherapy in sports injuries of head ,face and spine CO2: Understand about physiotherapy management for sports emergencies CO3. Apply the principles of training for rehabilitation of sports injuries CO4. Analyse the training in different environments CO5: Evaluate the role pf psychology in sports performance CO6: Design a treatment plan for rehabilitation of sports injuries.	
7	Course Description	The students will be able to understand the concepts of physiotherapy and knowledge of training principles in the management of sports injuries along with rehabilitation	
:8	Outline syllabus		CO Mapping
	Unit 1	**Injuries of head , face and spine and their Physiotherapy management**	
	A	To perform physiotherapy following Head, Eye and mouth Injuries	CO1
	B	To demonstrate physiotherapy for spine injuries	CO1

	Unit 2	**Sports Emergencies and their management**			
	A	To explain management of bleeding, shock, epistaxis, tooth avulsion			CO2
	B	To apply splinting, bracing and demonstrate the use of protective equipments and prevention strategies			CO2
	Unit 3	**Rehabilitation of sports injuries**			
	A	To plan rehabilitation for regaining ROM, posture, balance and core stability			CO3, CO6
	B	To plan rehabilitation for regaining muscle strength, power, endurance and cardiorespiratory fitness using training principles and periodization			CO3, CO6
	Unit 4	**Training in different environments**			
	A	To analyse physiological responses to exercises			CO4, CO6
	B	To find the effects of high altitude training, heat illness, heat stroke, sports diving and its hazards			CO4, CO6
	Unit 5	**Sports Psychology**			
	A	To identify the role of goal setting, attention, perception, emotionsand motivation in sports			CO5,CO6
	B	Techniques to manage stress, pre competition anxiety, aggression and eating disorders in athletes			CO5,CO6
	Mode of examination	Practical			
	Weightage Distribution	CA	CE	ESE	
		25	25	50	
	Text book/s*	1. ACSM's Foundations of Strength Training and Conditioning Book by Nicholas A. Ratamess			

		2. Essentials of Strength Training and Conditioning by National Strength &Conditioning Associa Greg Haff G.Gregory Haff N. Travis Triplett	
	Other References		

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	2	3	-	2	3	3	-
CO2	3	3	3	2	2	-	2	3	3	-
CO3	3	3	2	3	2	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	3	2
CO5	3	3	2	3	3	2	2	3	3	2
CO6	3	3	2	3	3	2	2	2	2	2
Avg PO	3.00	3.00	2.17	2.67	2.67	2.00	2.33	2.83	2.83	2.00

School: SSAHS Programme: MPTBranch: Sports		Batch: 2023-2025 Current Academic Year: 2024-25 IV Semester		
1.	Course Code	MPT 262		
2.	Course Title	Dissertation		
3.	Credits	18		
4.	Contact Hours (L-T-P)	0-0-36		
	Course Type	Compulsory		
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 types of research CO2: Understand about formulation of research protocol CO3:Apply research Methodology and skills to complete the research dissertation CO4: Analyse the data CO5: Evaluate the methods of scientific literature review and writing. CO6: Implement evidence based practice for research		
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.		
8.	Outline Syllabus			CO Mapping
	Unit 1	Introduction of subject/literature search		CO1,CO6
	Unit 2	Concept building and study design		CO2, CO6
	Unit 3	Experimentation		CO3, CO6
	Unit 4	Data collection, result analysis and discussion		CO4,CO6
	Unit 5	Report Writing		CO5, CO6
	Mode of Examination	Practical		
	Weightage Distribution	CA	ESE	
		25	75	
	Textbook/s*	1. ACSM's Foundations of Strength Training andConditioning Book by Nicholas A. Ratamess 2. Essentials of Strength Training and		

	Other References		

Pos Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	3	2	2	2	3
CO2	2	2	3	2	2	3	2	2	2	3
CO3	2	3	3	3	3	3	2	1	2	3
CO4	2	2	2	2	2	3	2	1	1	3
CO5	3	3	3	3	3	3	2	2	1	3
CO6	2	3	2	2	1	3	2	3	2	3
Avg PO	2.17	2.33	2.50	2.33	2.17	3.00	2.00	1.83	1.67	3.00

School: SSAHS Programme: MPTBranch: Sports		Batch: 2023-25 Current Academic Year: 2024-25 IV Semester	
1.	Course Code	MPT 272	
2.	Course Title	Clinical Outcome and follow up in Sports Conditions	
3.	Credits	4	
4.	Contact Hours (L-T-P)	0-0-8	
	Course Type	SEC	
5	Course Objective	1. The objective of this course is, the student will be able to assess different conditions in Athletic & Sporting backgrounds, set treatment goals and apply their skill. 2. Students will understand the role manual & exercise therapy and use of different assessment scales & fitness tests for outcome measures. 3. In addition, the student will be able to diagnose the conditions.	
6.	Course Outcomes	CO1: Be able to develop research based assessment skills to implement timely and appropriate physiotherapy assessment tools/techniques to ensure a holistic approach to patient evaluation in order to prioritize patient's problems. CO2: Be able to select timely research based physiotherapeutic interventions to reduce morbidity and physiotherapy management strategies, suitable for the patients' problems and indicator conditions based on the best available evidence based on different assessment scales & fitness tests and measure the outcomes. CO3: Implement appropriate research based physiotherapeutic techniques, electrotherapeutic modalities, joint and soft tissue mobilizations and ergonomic advice for athletes. CO4: Be able to make diagnosis and differential diagnosis of different musculoskeletal and sports conditions CO5: Be able to develop behavioural skills and humanitarian approach while communicating with patients, relatives, society and co-professionals, to promote individual and community health.	
7.	Course Description	The subject serves to integrate the knowledge gained by the students in sports physiotherapeutic with skills to apply these in clinical situations. The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify problems arising due to different sporting activities, plan and set treatment goals and apply the skills gained in exercise therapy and electrotherapy in these clinical situations to restore functions and capabilities & measure the outcomes of treatment and predict the prognosis of patient.	
8.	Outline Syllabus		CO Mapping
	Unit 1	**ASSESSMENT AND CONVENTIONAL OUTCOME MEAUSRES**	
	A	History taking–Present, Sports specific history, Past medical, Level of play, personal history , Higher mental function Vitals, clubbing (schamorth sign, stages), cyanosis, JVP, oedema,chest examination(shape , breathing pattern, tracheal deviations, auscultation, percussion notes, fremitus) , physical examination, Investigations	CO1, CO2

	B	Spirometry/ PFT Lung sounds (normal and adventitious) Body Composition Analysis	CO3, CO4, CO6
		Arterial blood gases Tests for Peripheral Arterial & Venous circulation BMI analysis	
	C	Musculoskeletal radiography EMG & ECG - (Normal & Variations in common pathologic conditions)	CO3, CO4,CO6
	Unit 2	**EMERGING OUTCOME MEASURES**	
	A	Cardio-respiratory Fitness analysis (VO2 Max.)	CO4, CO5,CO6
	B	Isokinetic dynamometry 1RM analysis	CO2, CO3,CO6
	C	Blood flow restriction training	CO2, CO3,CO6
	Unit 3	**SPORTS SPECIFIC EXERCISE TESTING**	
	A	Sub Maximal exercise tests	CO4, CO5,CO6
	B	Maximal Exercise tests	CO2, CO4,CO6
	C	Strength, Endurance & Power Testing	CO4, CO5,CO6
	Unit 4	**SUBJECTIVE AND OBJECTIVE SCALES**	
	A	Dyspnoea : Borg scale, Modified Borg scale , Dyspnoea management Questionnaire, MRC	CO1, CO2,CO6
	B	Fitness Scales: PARQ, RESTQ-76, RPE	CO2,CO3,CO6
	C	Fitness Quotient analysis	CO2,CO3,CO6
	Unit 5	**OUTCOME MEASURES IN SPECIFIC CONDITIONS**	
	A	**COVID-19:** COV19-QOL Sports Specific Test: Soccer, Swimming, Rowing, Cricket, Triathlon	CO2, CO4,CO5,CO6
	B	Concussion: Glasgow	CO2, CO4,CO5,CO6
	C	SCD / Heart failure : NYHA	CO2, CO4,CO5,CO6
	Mode of Examination	Practical	
	Weightage Distribution	CA: 25 / CE: 25 / ESE: 50	
	Textbook/s*	1. Sports Injury analysis: William E. Prentice 2. Sports Medicine: Karim Khan 3. American College of Sports Medicine : Textbook	
	Other References		

POs COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	-	2	2	2	-
CO2	3	3	2	3	2	-	2	2	2	-
CO3	3	3	3	3	2	2	2	3	3	1
CO4	3	3	2	3	3	2	2	3	3	2
CO5	3	3	2	3	3	2	3	3	2	2
CO6	3	2	3	3	2	1	3	3	3	3
Avg PO	3.00	2.83	2.33	3.00	2.33	1.75	2.33	2.67	2.50	2.00