Program Structure Template

School of Allied Health Sciences
Master of Physiotherapy
(Orthopaedics)

Batch – (2019-21)

Program Code – SAH0112

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

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

Mission of the University

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

Core Values

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

1.2 Vision and Mission of the School

Vision of the School

To steer the School of Allied Health Sciences towards excellence in academics, innovation and entrepreneurship by constant endeavors

Mission of the School

1. 1. **To create the state of the art facility for quality teaching learning, research & innovation**
2. **To incorporate the contemporary standards in teaching & learning**
3. **To inculcate in the students values of integrity and compassion towards the care of patients and society.**

Core Values

1.Critical Thinking and Observation
2. Analytical Skills
3. Creativity
4. Skilled professional
5. Multidimensional
6. Compassion
7. Management

1.3 Programme Educational Objectives (PEO)

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

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

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

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

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

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

1.3.2 Map PEOs with Mission Statements:

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

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

1.3.3 Program Outcomes (PO's)

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

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

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

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

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

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

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

Program Specific Outcomes (PSo's):

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

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

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

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

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

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

1.3.5 Program Outcome Vs Courses Mapping Table[1]:

Program Outcome Courses	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3
1st Year											
Course 1.1	Research Methodology and Evidence Based Practice	2	2	2	2	2	3	2	2	2	3
Course 1.2	Basic Sciences and Biomechanics	3	3	2	2	2	2	2	2	2	2
Course 1.3	Physiotherapy Assessment and Clinical Decision Making (Theory)	3	3	3	3	2	2	3	3	2	3
Course 1.4	Advanced Physiotherapeutics(Theory)	3	3	3	3	3	2	3	2	3	3
Course 1.5	Physiotherapy Assessment and Clinical Decision Making (Practical)	3	3	3	3	2	2	3	3	2	3
Course 1.6	Advanced Physiotherapeutics(Practical)	3	3	3	3	3	2	3	2	3	3
Course 1.7	Journal Club and Clinical Case Presentation	3	2	2	3	2	3	2	2	2	3
2ND Year											
Course 2.1	Pedagogy in Physiotherapy Education	2	2	2	2	1	2	3	2	2	2
Course 2.2	Administration, Management and Ethical Issues	1	1	2	2	2	3	3	2	2	3
Course 2.3	Musculoskeletal Physiotherapy I (Medical) Theory	3	3	2	2	3	2	3	2	3	3
Course 2.4	Musculoskeletal Physiotherapy	3	3	2	2	3	2	3	2	2	2

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

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

1.3.5.2COURSE ARTICULATION MATRIX[2]

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

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

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

Course 3.1	MPT 221	Pedagogy in Physiotherapy Education	CO1	2	3	3	3	3	2	2	2	3	2
			CO2	3	3	3	3	3	2	2	3	3	3
			CO3	1	1	2	2	2	1	3	1	1	2
			CO4	1	1	2	2	2	1	3	1	1	2
			CO5	1	1	2	2	2	1	3	1	1	2
Course 3.2	MPT 202	Administration, Management and Ethical Issues	CO1	3	3	3	3	2	2	3	2	3	3
			CO2	3	3	3	2	3	3	3	3	3	3
			CO3	2	2	3	2	2	2	3	2	1	2
			CO4	2	2	3	2	2	2	3	2	1	3
			CO5	2	2	3	2	2	2	3	2	1	3
Course 3.3	MPT 237	Musculoskeletal Physiotherapy I (Medical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	3	3	3	3	3
			CO4	2	2	3	3	3	2	3	3	3	2
			CO5	3	1	3	3	2	2	2	3	3	2
Course 3.4	MPT 238	Musculoskeletal Physiotherapy II (Surgical)	CO1	3	3	3	3	3	3	3	2	3	2
			CO2	3	3	3	3	3	3	2	3	3	3
			CO3	3	3	2	3	3	2	3	3	3	2
			CO4	3	3	2	3	3	2	3	3	3	2
			CO5	3	3	2	3	3	2	3	3	3	2
Practical													
Course 4.1	MPT 205	Journal Club and	CO1	3	3	3	3	3	3	3	3	3	3

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

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

Program Structure Template
School of Allied Health Sciences
MPT(Orthopaedics)
Batch: 2019-21
YEAR: I Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Hours/Week	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[3]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
1.	35395	MPT 111	Research Methodology and Evidence Based Practice	2	0	0	2	Core	CC
2.	7926	MPT 102	Basic Sciences and Biomechanics	2	0	0	2	Core	CC
3.	7928	MPT 103	Physiotherapy Assessment and Clinical Decision Making	2	0	0	2	Core	CC, AECC
4.	7929	MPT 104	Advanced Physiotherapeutics	2	0	0	2	Core	CC, AECC, SEC
Practical/Viva-Voce/Jury									
5.	7930	MPT 105	Journal Club and Clinical Case Presentation	0	0	4	4	Core	CC, AECC
6.	35396	MPT 106	Physiotherapy Assessment and Clinical Decision Making	0	0	2	2	Core	CC, SEC
7.	35397	MPT 107	Advanced Physiotherapeutics	0	0	2	2	Core	CC, SEC
8.	35398	MPT 108	Clinical Training	0	0	24	24	Co-requisite	SEC
TOTAL HOURS/WEEK							**40**		

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

Program Structure Template
School of Allied Health Sciences
MPT(Orthopaedics)
Batch: 2019-21
YEAR: II Year

S. No.	Paper ID	Subject Code	Subjects	Teaching Load			Hours/ Week	Core/Elective Pre-Requisite/ Co Requisite	Type of Course[4]: 1. CC 2. AECC 3. SEC 4. DSE
				L	T	P			
THEORY SUBJECTS									
1.	35399	MPT 221	Pedagogy in Physiotherapy Education	1	0	0	1	Core	CC
2.	35400	MPT 202	Administration, Management and Ethical Issues	1	0	0	1	Core	CC, AECC
3.	35401	MPT 237	Musculoskeletal Physiotherapy I (Medical)	3	0	0	3	Core	CC, AECC
4.	35402	MPT 238	Musculoskeletal Physiotherapy II (Surgical)	3	0	0	3	Core	CC, AECC
Practical/Viva-Voce/Jury									
1.	35405	MPT 207	Musculoskeletal Physiotherapy I (Medical)	0	0	2	2	Core	CC, AECC, SEC
2.	35406	MPT 208	Musculoskeletal Physiotherapy II (Surgical)	0	0	2	2	Core	CC, AECC, SEC
3.	7939	MPT 205	Journal Club and Clinical case Presentation	0	0	4	4	Core	CC, AECC
4.	7940	MPT 206	Dissertation	0	0	4	4	Core	CC
8.	35407	MPT 230	Clinical Training	0	0	20	20	Co-requisite	SEC
TOTAL HOURS/WEEK							**40**		

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

Table 1. Evaluation Scheme for MPT (Orthopaedics)-I year University examination

S. No.	Paper ID	Subject Code	Subjects	Internal Assessment	Oral (Viva voce)	University examination	Total marks
THEORY SUBJECTS							
1	35395	MPT 111	Research Methodology and Evidence Based Practice	20	N/A	80	100
2	7926	MPT 102	Basic Sciences and Biomechanics	20	N/A	80	100
3	7928	MPT 103	Physiotherapy Assessment and Clinical Decision Making	20	N/A	80	100
4	7929	MPT 104	Advanced Physiotherapeutics	20	N/A	80	100
PRACTICAL SUBJECTS							
1	7930	MPT 105	Journal Club and Clinical Case Presentation	50	N/A	N/A	50
2	35396	MPT 106	Physiotherapy Assessment and Clinical Decision Making	20	N/A	80	100
3	35397	MPT 107	Advanced Physiotherapeutics	20	N/A	80	100
4	35398	MPT 108	Clinical Training	N/A	N/A	N/A	N/A

Table 2. Evaluation Scheme for MPT (Orthopaedics)-II year University examination

S. No.	Paper ID	Subject Code	Subjects	Internal Assessment	Oral (Viva voce)	University examination	Total marks
THEORY SUBJECTS							
1	35399	MPT 221	Pedagogy in Physiotherapy Education	20	N/A	80	100
2	35400	MPT 202	Administration, Management and Ethical Issues	20	N/A	80	100
3	35401	MPT 237	Musculoskeletal Physiotherapy I (Medical)	20	N/A	80	100
4	35402	MPT 238	Musculoskeletal Physiotherapy II (Surgical)	20	N/A	80	100
PRACTICAL SUBJECTS							
1	35405	MPT 207	Musculoskeletal Physiotherapy I (Medical)	20	N/A	80	100
2	35406	MPT 208	Musculoskeletal Physiotherapy II (Surgical)	20	N/A	80	100
3	7939	MPT 205	Journal Club and Clinical case Presentation	50	N/A	N/A	50
4	7940	MPT 206	Dissertation	30	N/A	70	100
5	35407	MPT 230	Clinical Training	N/A	N/A	N/A	N/A

C. Course Templates

2.1 Template A1: Syllabus for Theory Subjects (SAMPLE)

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**	
Branch:		**I Year**	
1	Course Code	MPT 111	
2	Course Title	Research Methodology and Evidence Based Practice	
3	Hours/Week	2	
4	Contact Hours (L-T-P)	2-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To explain the basic concepts, terms and definitions used in health research. 2. To understand various types of research and formulate a research question, hypothesis and related objectives. 3. To understand the concepts of Biostatistics and its use in Physiotherapy research and select best sampling method for the chosen design and estimate sample size · 4. Carry out simple analysis of collected data and interpret findings appropriately ·	
6	Course Outcomes	The student will be able to: CO1. Understand the basic concepts, terms and definitions used in health research methodology CO2. To acquire the skills of reviewing literature, formulate a hypothesis, collecting data, writing research proposal. CO3. Describe the importance and use of Biostatistics for research work. CO4: To identify different scales of measurement used in research CO5: To read published research critically and to know how to publish a Paper	
7	Course Description	This course is designed to develop the basic knowledge of research, biostatistics which can be used to understand its special needs in relation to interventions in physiotherapy. The course will provide a comprehensive introduction to research proposal writing, research methodologies, and foundational research theories and protocols	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Research in physiotherapy – Introduction, Research for Physiotherapist: Why? How? And When? Research – Definition, concept, purpose, approaches, Internet sites for Physiotherapist	CO1, CO2
	B	Research Fundamentals, define measurement,	CO1, CO2,

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

	C	Measures of Dispersion- Range, Mean Deviation, Standard Deviation, Normal Distribution Curve, Properties of normal distribution, Standard normal distribution, Transformation of normal random variables. Inverse transformation, Normal approximation of Bioaxial distribution.	CO1, CO2, CO3, CO4
	Unit 4		
	A	Correlation analysis- Bivariate distribution: Scatter Diagram, Coefficient of correlation, Calculation & interpretation of correlational coefficient, T-test, Z-test, P-value; Regression analysis- Lines of regression, Calculation of Regression coefficient	CO1, CO3, CO4
	B	Sampling- Methods of Sampling, Sampling distribution, Standard error, Types I & II error, Probability (in Brief), Hypothesis Testing, Null Hypothesis, Alternative hypothesis, Acceptance & rejection of null Hypothesis, Level of significance	CO1, CO3, CO4
	C	Parametric & non parametric tests- Chi square test, Mann-Whitney U test, Wilcoxon Signed test, Kruskal-Wallis test, Friednam test, T-test/student T test, Analysis of variance	CO1, CO3, CO4
	Unit 5		
	A	Evidence–based health care, evidence–based practices	CO1, CO2
	B	evidence–based decision making and management	CO1, CO2
	C	Types of evidence - Definition of evidence, Forms of evidence, randomized controlled trials, Case–control studies, Cohort studies	CO1, CO2
	Mode of examination	Theory	
	Weightage Distribution	CA | ETE	
		20% | 80%	
	Text book/s*	1. Recent Methods for Clinical Therapists: applied Project Design and analysis by Carolyn Hicks 2. Elements of Research in Physical Therapy: Dean P. Currier 3. Physical therapy Research: Principles and	

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

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

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**	
Branch:		**I Year**	
1	Course Code	MPT 102	
2	Course Title	Basic Sciences and Biomechanics	
3	Hours/Week	2	
4	Contact Hours (L-T-P)	2-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To provide a detailed introduction on basic anatomy, physiology, structure and function of the musculoskeletal system. 2. To educate the students about the concept of exercise physiology and its applications. 3. To encourage the students to apply the exercise physiology concepts in training and Physiotherapy. 4. To educate the students about the concepts of Biomechanics and their use in Physiotherapy.	
6	Course Outcomes	The student will be able to: CO1: Knowledge on basic anatomy,physiology, structure and function of the musculoskeletal systems. CO2: Better understanding of physiology of exercise and energy transfer that allows humans to engage in physical activity. CO3: Knowledge about basic concepts of biomechanics of musculoskeletal structures with respect to physiotherapy CO4: To understand the physiological needs of training and conditioning**.** CO5: Assessment of biomechanical aspect of various dysfunctions	
7	Course Description	This course is designed to develop a anatomical knowledge and clinical application of Anatomy in Physiotherapy treatment. It also enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and various other dysfunctions as well as knowledge of basic and applied exercise physiology	
8	Outline syllabus		CO Mapping
	Unit 1	Structure & function of the various components of musculoskeletal system	
	A	Bone structure, blood supply, and growth; Cartilage, Ligament, Muscle structure, functional & classification. Origin, insertion, action and nerve supply, Major nerves – Course, branches & distribution. Implication of nerve	CO1

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

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

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

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

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**	
Branch:		**I Year**	
1	Course Code	MPT 103	
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Theory)	
3	Hours/Week	2	
4	Contact Hours (L-T-P)	2-0-0	
	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 rationalise the outcomes of assessment. 4. To train the students to accurately record the assessment and design individualized goals for patient.	
6	Course Outcomes	CO1. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.	
7	Course Description	This Course Supplements the Knowledge of assessment and diagnosis in Orthopaedic conditions. This will help form base of professional practice with the evidence-based practice and enables the student to have a better understanding of the subject along with their application in Orthopaedic and various other dysfunctions.	
8	Outline syllabus		CO Mapping
	Unit 1	Musculoskeletal assessment	
	A	Review of General assessment: Patient's history, observation, palpation, examination, Sensory assessment, Motor assessment, Assessment of Tone, flexibility, tightness of musculoskeletal tissues, - Muscle Length Testing and special tests for the same, Reflex testing	CO1, CO2
	B	Limb length measurement, Range of Motion, Various disease specific and functional outcome measures and their administration.	CO1, CO4
	C	Evaluation methods, Special tests and Scales used in	CO1, CO2,

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

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

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

School: SAHS		**Batch: 2019-21**
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**
Branch:		**I Year**
1	Course Code	MPT 106
2	Course Title	Physiotherapy Assessment and Clinical Decision Making (Practical)
3	Hours/Week	2
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. Perform thorough physiotherapy assessment and list deficiencies CO2. Design individualized goal for patients CO3. Rationalize the outcome of assessment CO4. Document systematic, meaningful, accurate written records of patients CO5: To use assessment methods in designing treatment.
7	Course	

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

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**	
Branch:		**I Year**	
1	Course Code	MPT 104	
2	Course Title	Advanced Physiotherapeutics (Theory)	
3	Hours/Week	2	
4	Contact Hours (L-T-P)	2-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about various techniques used in musculoskeletal Physiotherapy. 2. To analyse and classify various sports injuries and their management. 3. Compare & contrast the outcome of various physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of musculoskeletal conditions	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Manual therapies: different schools of thought	CO1, CO2, CO3, CO4
	B	Soft tissue manipulations and mobilizations	CO1, CO2, CO3
	C	Neural mobilization	CO1, CO2, CO3
	Unit 2		
	A	Joint manipulation – Peripheral joints and vertebral joints.	CO1, CO2, CO3, CO4
	B	Mobilization techniques like Cyriax, Maitland, Butler, Mc Kenzie, Kaltenborn , Mulligan	CO1, CO2, CO3, CO4
	C	Myofascial release technique, Muscle energy technique and Neuromuscular taping technique	CO1,CO2,CO3,CO4
	Unit 3		
	A	Analysis and classification of sports and sports specific	CO2, CO3

		injuries and it management			
	B	Principles of injury prevention, environmental modifications			CO2, CO3
	C	Exercise planning and prescription, Recent advances in Musculoskeletal disorders and Sports Physiotherapy			CO2, CO3
	Unit 4				
	A	Electrodiagnosis: Electromyography and evoked potential studies			CO2
	B	Gait Training, Biofeedback, Hydrotherapy, Patient & family education, Relaxation Techniques, massage therapy			CO2, CO3
	C	Pain (neurobiology, various theories, modulation and management of pain)			CO2
	Unit 5				
	A	Wheelchair skills- Basic & Advanced			CO1, CO2, CO3
	B	Prosthetics and Orthotics, External aids, appliances, adaptive self-help devices, prescription, biomechanical compatibility, check out and training.			CO2, CO3
	C	Community Based Rehabilitation in musculo-skeletal disorders, Rehabilitation of hand, Industrial health and ergonomics			CO2, CO3
	Mode of examination	Theory			
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Management Principles for Physiotherapist by Nosse, Lorry J 2.Myofascial and pain dysfunction by Travell, Villimans and Wilkins, Baltimore 1983 3. Vertebral Manipulation by Matiland G.D. Boston, Butterworth & Co. Boston, 1997 4. Peripheral Manipulation Matiland G.D. Boston, Butterworth & Co. Boston, 1997 5. Hand Rehabilitation by Christine, Churchcill, Livingstone London 1995			
	Other References				

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**	
Branch:		**I Year**	
1	Course Code	MPT 107	
2	Course Title	Advanced Physiotherapeutics (Practical)	
3	Hours/Week	2	
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 and classify various sports injuries and their management. 3. Compare & contrast the outcome of various physiotherapy treatment approaches.	
6	Course Outcomes	CO1. Learn various techniques of Physiotherapy. CO2. To formulate a rationalized physiotherapy treatment plan for the patient. CO3. Use various skills for rehabilitation of the individuals. CO4: Compare & contrast the outcome of various physiotherapy treatment approaches	
7	Course Description	The course will enable the students to learn skills and techniques to be used in Physiotherapy management of musculoskeletal conditions	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Demonstration of Manual therapies: different schools of thought	CO1, CO2, CO3, CO4
	B	Demonstration of soft tissue manipulations and mobilizations	CO1, CO2, CO3

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

	Distribution	20%		80%	
	Text book/s*	1. Management Principles for Physiotherapist by Nosse, Lorry J 2.Myofascial and pain dysfunction by Travell, Villimans and Wilkins, Baltimore 1983 3. Vertebral Manipulation by Matiland G.D. Boston, Butterworth & Co. Boston , 1997 4. Peripheral Manipulation Matiland G.D. Boston, Butterworth & Co. Boston , 1997 5. Hand Rehabilitation by Christine, Churchcill, Livingstone London 1995			
	Other References				

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

School: SAHS		**Batch : 2019-21**
Program: MPT(Orthopaedics)		**Current Academic Year: 2019-20**
Branch:		**I Year**
1	Course Code	MPT 105
2	Course Title	Journal Club and Clinical Case Presentation
3	Hours/Week	4
4	Contact Hours (L-T-P)	0-0-4
	Course Type	Compulsory
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.
6	Course Outcomes	After completion of the course, the students will be able to; CO1: Assess the patient and document their records. CO2. Present the latest research in journal presentation. CO3. Present the various cases and design the treatment programme for the patients CO4. Understand Evidence based implementation of various research protocols. CO5.Reasoning and decision making regarding diagnosis, treatment and follow-up of patients

7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.			
	Mode of examination	Practical			
	Weightage Distribution	CA			
		50			50

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

School: SAHS		**Batch : 2019-21**
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**
Branch:		**II Year**
1	Course Cod e	MPT 221
2	Course Title	Pedagogy in Physiotherapy Education
3	Hours/Week	1
4	Contact Hours (L-T-P)	1-0-0
	Course Type	Compulsory

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

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

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

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**II Year**	
1	Course Code	MPT 202	
2	Course Title	Administration, Management and Ethical Issues	
3	Hours/Week	1	
4	Contact Hours (L-T-P)	1-0-0	
	Course Type	Compulsory	
5	Course Objective	1. To provide knowledge about the management process and its functions. 2. To educate about the marketing and total quality management. 3. To educate the students about the role of hospital as an organisation 4. To educate about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists.	
6	Course Outcomes	CO1. Understand the basic issues of management and administration. CO2. Practice as an informed professional on legal and ethical issues in Physiotherapy. CO3 To understand the basic principle of Management and its importance. CO4:To understand the importance of hospital and how it works in different departments. CO5: To understand the role of Physiotherapy and its benefits to the society.	
7	Course Description	The course will enable the students about the rules of professional conduct, code of ethics and legal ethical issues in Physiotherapy and the standards of practice for physiotherapists. It will help them to Practice as an informed professional on management process and its functions.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Management: Introduction, Evolution of management, Functions of management	CO1,CO3
	B	Management process – planning, organization,	CO1,CO3

		direction, controlling, Decision-making.	
	C	Personnel management: Staffing, Recruitment selection, Performance appraisal, Collective bargaining, Job satisfaction.	CO1,CO3
	Unit 2		
	A	Marketing: Market segmentation, Channels of distribution, Promotion, Consumer behavior	CO1,CO2,CO3
	B	Total Quality Management: Basics of quality management, Quality control, Quality assurance Programme in hospitals	CO1,CO2,CO3
	C	Medical audit, International quality system.	CO1,CO2
	Unit 3		
	A	Hospital as an organization - Functions and types of hospitals	CO1,CO2,CO4
	B	Roles of Physical therapist, Physical therapy Director, Physiotherapy supervisor, Physiotherapy assistant, Physiotherapy aide, Home health aide, Volunteer.	CO1,CO2,C5
	C	Rules of Professional Conduct.	CO1,CO2
	Unit 4		
	A	Legal responsibility, Code of ethics	CO1,CO2
	B	Functions of Physiotherapy associations	CO1,CO2
	C	Role of the International Health Agencies	CO1,CO2
	Unit 5		
	A	Standards of practice for physiotherapists	CO1,CO2
	B	Liability and obligations in the case of medical legal action, Law of disability & discrimination	CO1,CO2
	C	Confidentially of the Patient's status, Consumer protection law, health law, MCI, DCP	CO1,CO2
	Mode of	Theory	

	examination				
	Weightage Distribution	CA		ETE	
		20%		80%	
	Text book/s*	1. Healthcare System and management: Goel, S.L. 2. Documenting physical therapy: Baeten, Angla 3. Physical Therapy Administration & Management by Hickik 4. Management Principles for physiotherapists by Nosse Lorry J. 5. Textbook of Healthcare ethics: Loeuy, Erich H			
	Other References				

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

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

School: SAHS		**Batch: 2019-21**
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**
Branch:		**II Year**
1	Course Code	MPT 237
2	Course Title	Musculoskeletal Physiotherapy I (Medical) Theory
3	Hours/Week	3
4	Contact Hours	3-0-01

	(L-T-P)		
	Course Type	Compulsory	
5	Course Objective	1. To educate students about etiology, pathophysiology, clinical presentation and physiotherapy manangement of general musculoskeletal disorders. 2. To provide knowledge about epidemiology, patho physiology and clinical conditions affecting various joints of body. 3. To educate students about physiotherapy management for various musculoskeletal disorders.	
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. CO2. Understand about epidemiology, patho physiology and clinical conditions affecting various joints of body CO3. Plan physiotherapy management for various musculoskeletal disorders. CO4: To learn about various regional orthopaedic conditions CO5: To learn about various investigative procedures used in musculoskeletal disorders	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various musculoskeletal disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Congenital malformations	CO1,CO2,CO5
	B	Rheumatic disorders: - Rheumatoid arthritis, Ankylosis Spondylosis, Reiter's disease, Polymyalgia rheumatica, Psoriasis	CO1,CO2, CO5
	C	Infections of musculoskeletal system, Acute, Chronic	CO1,CO2, CO5
	Unit 2		
	A	Metabolic and endocrine disorders, Calcium metabolism, Osteoporosis, Osteomalacia and ricket, Hyper parathyrodism	CO1,CO2, CO5
	B	Tumors of the musculoskeletal system, Classification, Benign, Malignant	CO1, CO2, CO5

	C	Neuromuscular disorders, Poliomyelitis, Cerebral palsy, Arthrogryposis multiplex Congenita, Muscular dystrophy, Osteoarthritis and crystal deposition diseases	CO1, CO2, CO5
	Unit 3		
	A	Investigations, Orientation and Introduction, physical basis, normal result & common abnormal response of the procedures done for musculoskeletal conditions (in brief)	CO1, CO2, CO5
	B	X- ray, Computerized Tomography, Magnetic Resonance Imaging	CO1, CO2 CO5
	C	Bone Scan, Laboratory tests, FNAC, Bone biopsy	CO1, CO2, CO5
	Unit 4		
	A	The shoulder, rotator cuff lesions, Instability, Rheumatoid disease of shoulder, Tuberculosis. The Elbow, Tennis elbow, Golfer's elbow, Myositis ossificans	CO1, CO2,CO3,CO4
	B	The Wrist, Carpal tunnel syndrome, Ganglion, Wrist instabilities and special tests, The Hand, Peripheral nerve injuries, Tendon lesions and transfer surgeries, Deformity in rheumatoid arthritis, peripheral nerve injuries, Hemiplegia, SCI and leprosy	CO1, CO2, CO4
	C	Cervical Spine, Discogenic pain, Whiplash injuries, Thoracic outlet syndrome, Brachial plexus injury and plexopathies, Torticollis and wry neck in pathologies of cervical spine; Back, Intervertebral disc, Discogenic pain, Spondylolysis & listhesis, Scoliosis & kyphosis, Tuberculosis, Musculoskeletal causes of low back pain	CO1, CO2,CO3, CO4
	Unit 5		
	A	The Hip- Avascular necrosis of femoral head., Osteoarthritis; Knee, Osteoarthritis, Meniscal / ligament injuries, Genu valgum / varum	CO1, CO2, CO4

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

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**II Year**	
1	Course Code	MPT 207	
2	Course Title	Musculoskeletal Physiotherapy I (Medical) Practical	
3	Hours/Week	2	
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 manangement of general musculoskeletal disorders. 2. To provide knowledge about epidemiology, patho physiology and clinical conditions affecting various joints of body. 3. To educate students about physiotherapy management for various musculoskeletal disorders.	
6	Course Outcomes	CO1. Understand about etiology, pathophysiology, clinical presentation and physiotherapy management of general musculoskeletal disorders. CO2. Understand about epidemiology, patho physiology and clinical conditions affecting various joints of body CO3. Plan physiotherapy management for various musculoskeletal disorders. CO4: To learn about various regional orthopaedic conditions CO5: To learn about various investigative procedures used in musculoskeletal disorders	
7	Course Description	This course is designed to develop and enhance the knowledge of Medical management for various musculoskeletal disorders and Physiotherapy for the same.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Demonstration of physiotherapy management for Congenital malformations	CO1,CO2,CO5
	B	Demonstration of physiotherapy management in Rheumatic disorders: - Rheumatoid arthritis, Ankylosis Spondylosis, Reiter's disease, Polymyalgia rheumatica, Psoriasis	CO1,CO2, CO5
	C	Demonstration of physiotherapy management for	CO1,CO2, CO5

		Infections of musculoskeletal system, Acute, Chronic	
	Unit 2		
	A	Demonstration of physiotherapy management for metabolic and endocrine disorders, Calcium metabolism, Osteoporosis, Osteomalacia and ricket, Hyper parathyrodism	CO1,CO2, CO5
	B	Demonstration of physiotherapy management in tumors of the musculoskeletal system, Classification, Benign, Malignant	CO1, CO2, CO5
	C	Demonstration of physiotherapy management in neuromuscular disorders, Poliomyelitis, Cerebral palsy, Arthrogryposis multiplex Congenita, Muscular dystrophy, Osteoarthritis and crystal deposition diseases	CO1, CO2, CO5
	Unit 3		
	A	Investigations, Orientation and Introduction, physical basis, normal result & common abnormal response of the procedures done for musculoskeletal conditions (in brief)	CO1, CO2, CO5
	B	Interpretation of X- ray, Computerized Tomography, Magnetic Resonance Imaging	CO1, CO2 CO5
	C	Interpretation of Bone Scan, Laboratory tests, FNAC, Bone biopsy	CO1, CO2, CO5
	Unit 4		
	A	Demonstration of physiotherapy management in shoulder, rotator cuff lesions, Instability, Rheumatoid disease of shoulder, Tuberculosis. The Elbow, Tennis elbow, Golfer's elbow, Myositis ossificans	CO1, CO2,CO3,CO4
	B	Demonstration of physiotherapy management for injuries of Wrist, Carpal tunnel syndrome, Ganglion, Wrist instabilities and special tests, The Hand, Peripheral nerve injuries, Tendon lesions and transfer	CO1, CO2, CO4

		surgeries, Deformity in rheumatoid arthritis, peripheral nerve injuries, Hemiplegia, SCI and leprosy	
	C	Use of Physiotherapy in Cervical Spine, Discogenic pain, Whiplash injuries, Thoracic outlet syndrome, Brachial plexus injury and plexopathies, Torticollis and wry neck in pathologies of cervical spine; Back, Intervertebral disc, Discogenic pain, Spondylolysis & listhesis, Scoliosis & kyphosis, Tuberculosis, Musculoskeletal causes of low back pain	CO1, CO2,CO3, CO4
	Unit 5		
	A	Demonstration of physiotherapy management in Avascular necrosis of femoral head., Osteoarthritis; Knee, Osteoarthritis, Meniscal / ligament injuries, Genu valgum / varum	CO1, CO2, CO4
	B	Demonstration of physiotherapy management in Ankle and foot, Metatarsalgia, Flat foot, Carsus foot, Hallax valgus, CTEV, Ankle sprains	CO1, CO2,CO4
	C	Demonstration of physiotherapy management in Fractures and joint injuries, Principles of acute fracture care, Conservative management of the following: Pediatric fractures, Injuries of shoulder, upper arm and elbow, Injuries of forearm and wrist, Injuries of Spine, Injuries of Pelvis, Injuries of Hip and Femur, Injuries of Knee, Leg Injuries, Injuries of ankle and foot	CO1, CO2,CO4
	Mode of examination	Practical	
	Weightage Distribution	CA | | ETE	
		20% | | 80%	
	Text book/s*	1.Essential of Orthopaedic for Physiotherapist by Ebnezar 2.Cash'TB for Ortho and rheumatology for physiotherapist by Downie 3.Principles and Practice of orthopedics and sports medicine by Garret 4. Orthopaedic rehabilitation by Brokmen	

		5.Treatment and rehabilitation fractures by Hoppenfield	
	Other References	1.Recent advances in Orthopaedic 2. Musculoskeletal Trauma 3. Textbook of Orthopaedic & Trauma 4. Watson Jones fracture join & injuries	

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

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

School: SAHS		**Batch: 2019-21**
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**
Branch:		**II Year**
1	Course Code	MPT 238
2	Course Title	MusculoskeletalPhysiotherapy II (Surgical) Theory
3	Hours/Week	3
4	Contact Hours (L-T-P)	3-0-0
	Course Type	Compulsory
5	Course Objective	1. To educate students about orientation and general principles of orthopaedic surgeries. 2. To provide knowledge about the physiotherapy management following surgical procedures
6	Course Outcomes	CO1. Understand about the orientation and general principles of orthopaedic surgeries. CO2. Assess the patients following surgical procedures. CO3: Provide the physiotherapy management following surgical procedures

		CO4: Enable the students to gain knowledge about orthopaedic implants CO5: Enable the students to gain knowledge about tendon transfers, nerve suturing and grafting	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of orthopaedic surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	Arthrodesis	CO1,CO2,CO3
	B	Osteotomy	CO1,CO2,CO3
	C	Arthroplasty	CO1,CO2, CO3
	Unit 2		
	A	Bone grafting	CO1,CO2,CO3
	B	Internal and external fixations, Orthopaedic implants-designs, materials, indications, post-operative assessment	CO1, CO2, CO3,CO4
	C	Distraction and limb reconstruction	CO1, CO2, CO3,CO4
	Unit 3		
	A	Correction of bone deformities and joint contractures	CO1, CO2, CO3
	B	Tendon transfers	CO1, CO2, CO3,CO4
	C	Nerve suturing and grafting.	CO1, CO2 CO3,CO5
	Unit 4		
	A	Operations on joints, Menisectomy, laminectomy, patellectomy	CO1, CO2, CO3
	B	Total knee and hip replacement	CO1, CO2, CO3
	C	Amputations for upper and lower extremities	CO1, CO2, CO3
	Unit 5		

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

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

School: SAHS		**Batch: 2019-21**	
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**	
Branch:		**II Year**	
1	Course Code	MPT 208	
2	Course Title	Musculoskeletal Physiotherapy II (Surgical)Practical	
3	Hours/Week	2	
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. Understand about the orientation and general principles of orthopaedic surgeries. CO2. Assess the patients following surgical procedures. CO3: Provide the physiotherapy management following surgical procedures CO4: Enable the students to gain knowledge about orthopaedic implants CO5: Enable the students to gain knowledge about tendon transfers, nerve suturing and grafting	
7	Course Description	The course will enable the students to gain knowledge about orientation and general principles of orthopaedic surgeries. This will help them to formulate and design physiotherapy treatment program following surgical procedures.	
8	Outline syllabus		CO Mapping
	Unit 1		
	A	To demonstrate physiotherapy management following arthrodesis	CO1,CO2,CO3
	B	To demonstrate physiotherapy management in Osteotomy	CO1,CO2,CO3
	C	To demonstrate physiotherapy management for Arthroplasty	CO1,CO2, CO3
	Unit 2		
	A	To demonstrate physiotherapy management after bone grafting	CO1,CO2,CO3

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

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

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

School: SAHS		**Batch : 2019-21**
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**
Bran2ch:		**II Year**
1	Course Code	MPT 205
2	Course Title	Journal Club and Clinical Case Presentation
3	Hours/Week	4
4	Contact Hours (L-T-P)	0-0-4
	Course Type	Compulsory
5	Course Objective	The objective of the course is that, the student will be able to 1. To develop confidence and presentation skill. 2. To develop decision making and reasoning skills in patient management. 3. To develop efficient methods of study of research journals.

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

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

School: SAHS		**Batch: 2019-21**		
Program: MPT(Orthopaedics)		**Current Academic Year: 2020-21**		
Branch:		**II Year**		
1	Course Code	MPT 206		
2	Course Title	Dissertation		
3	Hours/Week	4		
4	Contact Hours (L-T-P)	0-0-4		
	Course Type	Practical		
5	Course Objective	The objective of the course is that, the student will be able to 1. Apply the evidences for the search of new knowledge. 2. To develop efficient research methodology. 3. To improve the scientific literature writing.		
6	Course Outcomes	After completion of the course, the students will be able to; CO1:Gain knowledge about formulation of research protocol CO2:Apply research Methodology and skills to complete the research dissertation CO3:Develop the skill to publish and present the research CO4: Methods of scientific literature review and writing. CO5:Evidence based implementation of various research protocols.		
7	Course Description	This course is to design and develop the in-depth thinking ability, presentation skill, reasoning and decision making, analytical skills and deep exploration of various topics and cases among the students. It will enhance the research ability of the students hence will help in uplifting the new rays of therapeutic skills.		
	Mode of examination	Practical		
	Weightage Distribution	CA	ETE	
		30%	70%	

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