COURSE	**FACULTY OF PHYSIOTHERAPY**
PROGRAM	**BACHELOR OF PHYSIOTHERAPY**
SEMESTER	**1**
COURSE TITLE	**EXERCISE THERAPY-I & SOFT TISSUE MANIPULATION**
COURSE CODE	**17PT1112**
COURSE CREDITS	**10**

Course Outcomes: After completion of this course, student will be able to:

1. Understand the basic mechanical principles and effect of exercises in the restorations of physical function.
2. Describe and acquire the skills of application and demonstration of the use of various tools of the therapeutic gymnasium and various starting and derived positions.
3. Describe and acquire the skills of application and demonstration of the use of various tools of the therapeutic gymnasium and various starting and derived positions.
4. Describe the physiological and therapeutic effect of various movements and demonstrate them in various anatomical planes.
5. Acquire the skills of application of various massage manipulations and describe the physiological effect, therapeutic uses, merit – demerits of the same.
6. Acquires the skills of application of various exercise therapeutic modalities in the restoration of physical function and describes the physiological effect, therapeutic uses, merits/demerits of the same.

Pre-requisite of course: To understand in detail about exercise physiology and different types of exercise essential for Physiotherapy

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
120	0	160	50	30	20	50	50

Contents : Unit	Topics	Contact Hours
1	**Introduction to exercise therapy** Physiological effects and uses of exercise., Use of apparatus in exercise therapy.	5
2	**Force of gravity** the centre of gravity,line of gravity, and base., Axes and planes of movement and gravity.	5
3	**Simple machine** lever, mechanical advantage,, angle of pull, pulley, Wheel and axle, fixed and movable pulley, pendulums, elasticity, spring & properties of spring.	5

DR. ASHISH DHIRAJLAL KAKKAD (PT)
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DR. ASHISH DHIRAJLAL KAKKAD (PT)
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4	**Joint movement** Terminology, range axes, planes of movement,, levers.	5
5	**Fundamental starting positions, derived positions** Fundamental Starting positions, Derived positions, effects and uses,, pelvis tilt, Muscle work for all positions.	5
6	**Classification of movements** types of muscle work	6
7	**Active movements** Definition, types, techniques, effects, uses	5
8	**Free Exercises** Classification, technique,, effects of free exercises, application for shoulder, neck, hip, and knee joints,, techniques of mobilization for stiff joints	5
9	**Passive movements** Definition, Types, techniques of relaxed passive movements, uses, comparison of both movements.	5
10	**Posture** Outlines only	4
11	**Resisted Exercises** Techniques and types of resistance, Oxford method, Oxford method, Delorme method, Macqueen method	4
12	**Measurement of joint movements** Goniometry, types of the goniometer, bubble, and gravity goniometer.	4
13	**Causes of restriction of range of movement** Distinguish between skin, muscles, Capsular contractures., Capsular pattern, End feel	6
14	**Suspension therapy** Definitions of suspension and point of suspension, types of suspension, pulleys, use of pulleys in suspension therapy, application of suspension therapy either to increase the joint range, application of suspension therapy to increase the muscle power	10
15	**Breathing** Mechanism of breathing (normal), Muscles of respiration, changes in the thoracic cage during the process of respiration, Diaphragmatic breathing, Segmental breathing, Pursed lip breathing, Glossopharyngeal Breathing - significance.	5
16	**Group work** Criteria of selection of patients, advantages, and disadvantages of group class exercises., Home exercises, Trick movements	6
17	**Normal gait cycle** Phases of gait	6
18	**Walking Aids** Introduction, types, measurement, uses, precautions, progression.	4
19	**Measurement of limb length** methods of measurements.	5
20	**Maintenance and record of volume** range of motion, resistance,, limb length., Girth measurement.	5
21	**Massage Manipulation** Introduction-brief history, definition, classification., Physiological effects and therapeutic uses, contra-indications., Preparation of	15

	patient, basic points to be considered before and during massage procedure., Technique, effects, and uses of each manipulation and contra-indications. The practice of soft tissue manipulation in subjects., Specific effects of certain manipulations., Massage for arm, leg, neck, and upper back face., Massage for oedema, scar, tendinitis, fibrosis (tight fascia), Mobilization of soft tissues, joints, and fluid collection.	
Total Hours		120

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Active and active assisted Movements** upper limb, lower limb, spine	10
2	**Passive Movements** upper limb, lower limb, spine	10
3	**Resisted Exercise** oxford method, delorme method, macqueen's method	10
4	**Goniometer** upper limb, lower limb, spine	25
5	**Suspension Therapy** upper limb, lower limb	25
6	**Breathing Exercise** Diaphragmatic breathing, segmental breathing, glossopharyngeal breathing	10
7	**Walking Aids** cane , crutch, walker	15
8	**Limb Length Measurement** true limb length measurement technique, apparent limb length measurement	5
9	**Girth measurement** for upper limb, for lower limb	3
10	**Massage** massage for upper limb, massage for lower limb, massage for trunk, massage for face	25
11	**Introduction to apparatus used for exercise therapy** demonstration of different equipment	2
12	**Starting positions and Derived positions** fundamental starting positions, derived positions	20
Total Hours		160

Textbooks:

1. Principles of Exercise Therapy by Dena Gardiner, 4th Edition, CBS Publication.
2. Therapeutic Exercise by Kisner & Colby, 4th Edition; Jaypee Publication.
3. Principles and Practices of Therapeutic Massage, Sinha A G, Jaypee Publication

Reference books:

1. Handbook of Clinical Massage latest edition Casser M P, Elsevier Publication.

2. Measurement of Joint Motion – a guide to Goniometry by Cynthia Norkin, Latest Edition; Jaypee Publication.
3. Practical Exercise Therapy by Margaret Hollis, 4th Edition; Blackwell Sciences Publication.