

IQRA NATIONAL UNIVERSITY

MID TERM PAPER

THERAPEUTIC EXERCISE

DEPARTMENT: ALLIED HEALTH SCIENCES

COURSE: DPT

STUDENT NAME: SHOAIB ALI KHAN

ID: 14630

TEACHER NAME: DR. JAFFAR

## QUESTION NO: 1

### THERAPUTIC EXERCISE:

Therapeutic exercise is define as is to return an injured patient to a fully functioning, pain-free state.

OR

Therapeutic exercise is the systematic and planned performance of body movements or exercise which aims to improve and restore physical function .exercise is define as "activity" that is performed or practice to develop or improve a specific function or skill to develop and maintain physical fitness".

Exercise designed to

Prevent or rehabilitate disabilities

Improve or restore physical function so that ADL 's are no longer a challenge

Improve overall health and fitness

Reduce risk factors

### AIMS OF THERAPUTIC EXERCISE

- Enable ambulation
- release contracted
- soft tissues
- Mobile joints
- improve circulation
- improve respiratory
- capacity
- decrease stiffness
- improve muscle strength
- improve endurance
- improve co-ordination
- promote confidence and wellbeing
- improve balance
- promote relaxation

#### a) ROM:

Range of motion (ROM) is the measurement of the amount of movement around a specific joint or body part. It is commonly measured during a physical

therapy evaluation or during a course of treatment. Other impairments that your physical therapist may measure include strength, gait, flexibility, or balance.

### WHY WE USE ROM?

Active range of motion exercises help improve joint function. Range of motion is how far you can move your joints in different directions. These exercises help you move each joint through its full range of motion. Movement can help keep your joints flexible, reduce pain, and improve balance and strength.

### Question no:2

#### Aquatic exercise:

##### Definition:

It's a multi depth immersion pool or tank that facilitate the application of various established therapeutic interventions, including stretching, strength joint mobilization, balance and gait training and endurance training.

##### Properties of water:

##### Physical properties:

- Pure water is tasteless, colorless and odorless. The taste of water is due to the dissolved salts and gases.
- Water exists in nature in all three states i.e. solid, liquid and gas.
- Freezing point of water is 0 degree and boiling point is 100 degree.
- Pure water is neutral to litmus. It does not change the color of the litmus.
- Pure water has minimal electrical conductivity, but its conductivity increases as electrolyte dissolves in it.
- Water is a polar molecule.
- Pure water has density of 1.0g/cm<sup>3</sup> at 4 degree C.
- Water conducts heat more easily than any other liquid.
- Water has a high surface tension.
- Water is a thermally stable compound. This is because 1% of its molecules decompose into its components i.e. Hydrogen and oxygen.

#### Clinical significance of water:

Water is clinically very significant. It has many advantages. Some of them are given below.

- Reduce stress on joints.
- Water also increases muscle strength and tone.

- decreases pain
- increase cardiovascular activity.
- improve balance and coordination
- decrease edema.
- improve posture and trunk control.
- increase in limited range of motion.
- improve circulation.

### Q3 : Joint mobilization:

Joint mobilization is passive joint movement for increasing ROM or decreasing pain.

This is applied to joint and related soft tissues at varying speeds and amplitudes using physiologic or accessories motions.

#### Effects of joint mobilization:

- Stimulates mechanoreceptors to relief pain.
- Joint mobilization can improve exchange of nutrients.
- Improve mobility of hypo mobile joints.

#### Maitland joint mobilization grading scale based on amplitude:

##### GRADE 1

- It manage pain and spasm.

##### GRADE 2

- LARO within midrange of movements. Not reaching the limit.
- Manage pain and spasm.

##### GRADE 1,2

- Often sed before and after treatments with grade 3,4.

##### GRADE 3

- LARO up to point of limit of the available motion and are stressed into the tissue resistance.
- Stretches capsule and CT structures.

##### GRADE 4

- SARO at very range of movement.

- Used to gain motion within the joints.

#### GRADE 5

- Also called thrust technique.
- Small amplitude, quick thrust end of range
- Accompanied by popping sound.
- Requires training

Indication of mobilization:

#### GRADE 1 and 2

- Primarily used for relief of pain.
- Pain must be treated prior to stiffness.
- Pain full condition can be treated daily.
- Small amplitude oscillations stimulate mechanoreceptors.

#### GRADE 3 and 4:

- Primarily used to increase motion.