

**8Mid-Term Assignment/Paper (spring -2020)**  
**Therapeutic exercises**  
**DPT 4<sup>th</sup> semester**  
**Instructor: Dr. M.Jaffar**

Time: 48-hours

Max Marks: 30

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**Q1.** Define Therapeutic Exercise? Discuss the aims of Therapeutic Exercise?

a) What is ROM? Why we use ROM?

**Q2.**What is aquatic exercises? Discuss the properties of water and its clinical significance?

**Q3.** Describe Maitland Joint Mobilization Grading based on amplitude of movement.

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**Dpt 4<sup>th</sup> semester**

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**Question no 1**

**ANSWER :**Therapeutic exercise is the systematic performance or execution of planned physical movements or activities the main goal of therapeutic exercise is to return an injured patient to a fully functioning , pain free state .

**Aims:** the aims of therapeutic exercise

1: improve muscle strength

2:mobile joint

3: Release contracted soft tissue.

4: improve balance

- 5: Promote relaxation stability.
- 6: improvement of function and strength.
- 7: improvement in gait and balance.
- 8: prevention and promotion of health, wellness and fitness.
- 9: To reduce muscle spasm and pain under abnormal condition.
- 10: To reduce edema.
- 11: To mobilize secretion in the lungs .
- 12: To induce local and general relaxation.
- 13: To improve mobility of the soft tissues.

A) What is range of motion .why we use R.O.M.?

Answer: Range of motion is the measurement of movement around a specific joint or a body parts it is commonly measured during a course of treatment .

**Example:** a knee might lack 10 degree of full extension due to an injury.

**The reason why we use range of motion:** Active range of motion exercise help improve joint function .Range of motion can move your joint in different direction . These exercise help you move each joint through its full range of motion movement can help keep your joint flexible , reduce pain and improve balance and strength.

### **Question 2**

**Aquatic exercise :** is a low impact activity that takes the pressure of your bones , joints and muscle water also offer resistance Against your body which can also help your muscle aquatic exercise has several benefits improve heart health, reduce stress level muscle endurance.

### **Water properties:**

**1: Buoyancy**

**2: hydrostatic pressure**

**3: viscosity**

**4: surface tension**

**1: buoyancy : it's a force that's work opposite to gravity and safe us from depthness.**

Clinical significance 1: relative weightless and joint unloading

2: active motion with increased

3 : three dimensional access to the patient.

**2:Hydrostatic pressure** :it's a pressure exerted or immersed object.

**Clinical significance:** reduces or limits effusion .Example in joints when fluid excess it limits.

**Centralizer peripheral blood flow:** between finger , better circulation ..most common in calf muscles .

**Hydrostatic pressure :** Safe us from DVT (deep venous thrombosis).

**3:Viscosity: it's a** friction occurring between molecules of liquid resulting in resistance to flow

**Clinical: create resistance with active movement .**

Increase the surface area moving through water increase resistance

**Surface tension :** surface of fluid act as membrane under tension.

Surface tension allows insects usually denser than water to float and slide on water surface.

Surface tension depends mainly the force of attraction between the particles with given liquid and also depends on gas, solid, liquids.

**Question 3 Answer: Grade1**

**SARO:** at the beginning of movement .not reaching the limits.

Manages pain and spasm

**Grade 2**

**Laro: within midrange of movement . Not reaching the limit**

Large movement of spine but still performed within the spine resistance.

Manage pain and spasm.

**Grade 1 and 2 often used before and after treatment with grades 3 and 4.**

**Grade 3**

**LARO:** limited point available motion. Range of motion occurs within restricted point

Large movement of the spine performed into the spine resistance.

Use to gain motion of joint

#### **Grade 4**

A small movement of the spine performed into the spine resistance.

SARO: at very end range of movement occur

Used to gain motion within the joint.

Use when resistance is limited in absence of pain.

#### **Grade 5: thrust technique**

A high velocity movement performed into the spine resistance.

Small amplitude , quick thrust sound at the end of the movement .

Requires training , manipulation, accompanied by popping sound ,