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**DPT 2nd Semester Section B**

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**Q-1 a Answer**

**Biomechanics**

Biomechanics Is Study Of Human Movements, Action And Force, Structure, Function And Motion. There Are 4 Sub Division Of Biomechanics,

1-Static

2-Dynamic

3-Kinematic

4-Kinetic

**Ergonomics**

Ergonomic Is Scientific Study Of Human Discipline With Understand Of Interaction Of Human Behaviour With Other Element Of System And Work And Performance.

**Q-1b**

**Role Of Biomechanics And Ergomomics In Physical Therapy.**

Biomechanics and proivde full information about movements occurring in human body study of these is important in physical therapy as they determine the cause of injury and help us to not happening it again. In Physxial therapy we are trained to find out biomechanical fault. In ergonomics we study of bad posture and injury happened beacuse of bad posture.

**Q-2 a**

**Answer**

**SHOULDER COMPLEX**

Shoulder Complex Consists Of,

Acrmoiclavicular , Seternoclavicular , Glenohumeral , Scapulothoracic joints, Subacromial

Clavicle, Sternum , Humerus , Scaplua, Coracoid Process, Acromion

Subsacpularis Muscles, Bicep Muscle (LongHead), Subscapularis Tendon, Supraspinatus Tendon, Bicipital Tendon, Subacromial Bursea.

**Q-2b**

**Mobility Of Shoulder**

Shoulder joint (Ball And Socket) Or Shoulder Blade is most mobile joint in human body , the joint is mobile because of large Humeral Head and Small Glenoid Cavity providing joint wide range of movement.

inherant joint capsule laxty.

**Q-2c**

Humerus and Scapula help in the stability of shoulder, the stability is proivded by rotator cuff muscle that are attached from scapula to humerus. glenoid labrum.

**Q-2d**

**Osteokinematic**

Osteo=Bone , Kinematic=Movement

Osteokinematic is the study of bone movement.

**Example**

Flexsion Extension Abduction Addcution.

**Arthokinematic**

Artho= Joint, Kinematic=Movement

So Arthokinematic is study of joint movement.

**Example**

Inferior Glide, Superior Glide

Posterior Glide, Anterior Glide

**Q-3 a**

**Supraspinatus In GH Stabilization**

Supraspinatus line of pull is differeent as compaerd other rotator cuff muscles, Supraspinatus has a superior translatory Component than the inferior component. Supraspinatus resultant FY is a compressor and pull humeral head face downward and the other resultant draw of supraspinatus is Fx and its direction is upward. It does not balance the deltiod pull It increase the pull of deltoid muscle.

Fx is translatory component the function of Fx is to pull humeral head superiorly, FY is rotatory component the function of Fy is to compress humerus head and this compression of supraspinatus is more than other rotator cuff muscles due to this compression suprasipnatus Gh is stabilized, and gravity also help in GH stabilization by upwrad pull of Deltiod and supraspintaus muscle.

**Q-3b**

**Scapula Movement In Range**

Motion of scapulathoracic joint, glenohumeral joint is there for the normal range of motion of shoulder joint. If there is problem with scapula the normal ranges of shoulder joint decrease. When we do flexsion or adduction of hand normally that if the hand is moved 3 degree so in that Three degree range of motion the two degree motion is in glenohumeral joint and one degree of motion is in scapula scapulathoracic joint. Full range of motion of flexsion is 180 degree and in that 180, 120 is in glenohumeral and 60 degree is in scapula.