

## DPT 4<sup>th</sup> Semester

**Course Title: Exercise Physiology**

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**Final Term Assignment**

**Marks: 50**

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***NOTE: Mention your name and roll number on the assignments.***

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- 1- If you lifted a 10-kilogram (Kg) weight upward over the distance of 2 meters (m), the work performed would be ? Calculate Work.

$$\begin{aligned}w &= f \times d \\ &= mg \times d \\ &= (10 \times 9.8) \times 2 \\ &= 196 \text{ joule}\end{aligned}$$

- 2- Enlist basic principles of the training.

1. Specificity
2. progression
3. overload
4. Recovery
5. reversibility
6. Individual needs
7. frequency
8. intensity
9. time
10. Type

- 3- Describe preload and afterload in simple words.  
preload..

Amount of sarcomere stretch experienced by cardiac muscle cells at end of ventricular filling during diastole

Preload is directly proportional to ventricular filling .

After load..

Force of load which the heart has to contract to eject the blood

Proportional to average of arterial pressure

Increase aortic and pulmonary pressure afterload increases on left and right ventricle respectively

4- What are the factors increasing stroke volume.

1. End diastolic volume
2. contractility
3. plasma volume
4. filling time and venous return
5. ventricular volume

5- *Differentiate between isometric, isotonic and isokinetic exercises.*

ISOTONIC EXERCISE.

There is movement of body part at joint

During contraction muscle shorten and movement of limb take place

Equipments use are e.g dumb bells , bench press

Most exercise sports are isotonic

ISOMETRIC

This is done in static position

During contraction muscle shorten but no movement take place

Use muscle tension

Does not use any equipment

Good way to develop strenght after injury

ISOKINETIC