

## Chapter - 8

### Health Related Physical Fitness

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#### I. Long Answer Questions

**1. What do you understand by health?**

**Ans.** Health is a state of full physical, mental and social well-being. Disease. Any disruption to any organ or part of the body's structure or function. This may be because of a pathogens assault (viruses, bacteria), a lack of diet and balanced nutrition and a lack of facilities of government health.

**2. List and explain the components of health related fitness.**

**Ans.** The health and wellbeing of a person are improved by regularly scheduled fitness activities, including walking, jogging, cycling, swimming and yoga. The risk of heart problems, diabetes, hypertension and depression is also reduced. We may also conclude that physical exercise is connected with an individual's "wellness" and healthy growth.

There are five physical fitness elements related to health -

1. Muscular Strength 2. Endurance 3. Flexibility 4. Body Composition 5. Cardiovascular Endurance

**3. Explain muscular strength.**

**Ans.** Muscle power is the skills of moving objects and lifting them. Examples include resistance training, such as weight-lifting, bodyweight exercises, and band resistance exercises to improve muscle strength and control. Other opportunities include running, biking and climbing hills.

**4. Explain the benefits of endurance training.**

**Ans.** The benefits of Endurance Training is shown below,

System	Increases	Decreases
Cardiorespiratory System	1. Heart size and volume 2. Blood volume and a slight increase in haemoglobin 3. Stroke volume 4. Cardiac output 5. $\dot{V}O_2$ max 6. Oxygen interaction with cells 7. Lung volume	1. Resting heart-rate 2. Sub-maximal exercise heart rate 3. Blood pressure (if high)
Muscular Skeletal System	1. Mitochondria — number and size 2. Myoglobin storage 3. Triglyceride storage 4. Oxidative Phosphorylation	1. Chances of injuries
Other System	1. Strength of connective tissues 2. Heat acclimatisation 3. High-density lipoprotein cholesterol (HDL)	1. Body weight (if overweight) 2. Body fat 3. Total Cholesterol 4. Low-Density Lipoprotein Cholesterol (LDL)

## 5. Explain flexibility and its types.

**Ans.** Flexibility exercises stretch your muscles and can enhance your grip. There are two different forms of flexibility: static stretching, where you can stretch out the muscles without movement, and dynamic stretching, combining stretching and movement.

## 6. Explain the various factors affecting flexibility.

**Ans.** The power of the joint to pass in an unlimited, painless motion range is flexible. While there is a great deal of flexibility between people, minimum ranges are required to ensure the overall health of the joint and body. Many factors impact typical joint flexibility losses, including fracture, inactivity or failure to stretch. The mobility of the soft tissues surrounding the joint is affected by the range of movements. There are muscles, ligaments, tendons, joint capsules, and skin. A lack of streaming may lead to a fatigue-induced reduction in soft tissue over time, especially when combined with exercise.

# II. Short Answer Questions

## 1. Define endurance.

**Ans.** If a person continues to be physical, it is said that he or she has a good stamina to perform this specific job. Naturally, it appears to be a decisive element in assessing endurance capability both physiologically and psychologically. When a person continues to function for longer periods, they can experience physical and mental exhaustion after a certain amount of time.

However, whether he or she can carry on the job for a longer time, then this demonstrates that he or she has strong resilience.

## **2. What is physical fitness?**

**Ans.** Physical exercise has a significant impact on a person's health. Fitness sessions should be integrated into our everyday routine in order to maintain our well-being. The state of health and well-being is physical fitness. It enhances the ability to perform more effectively in sports, work and routine. This is accomplished by moderate/strong physical activity, healthy diets and proper rehabilitation."

## **3. What is interval method?**

**Ans.** Interval training, the competitive training system in which balanced time rest and practise periods alternate. Rest periods enable the pulse rate of the athlete to return almost normal before the next cycle of practice begins.

## **4. What is Post-Isometric Stretch?**

**Ans.** The post isometric technique of relaxation starts with a muscle position that is extended. An isometric contraction against minimum resistance is then exercised. Relief and gentle stretching accompany the release of the muscle.

## **5. List down the four motion factors responsible for range of motion.**

**Ans.** This movement is affected by various structures: the arrangement in the joint of bone surfaces, the joint capsule, ligaments, tendons and joint muscles. Often called "ROM" exercises are range of motion exercises. Three kinds of ROM exercises are available: passive, active and active aid.

- Head and neck exercises
- Shoulder and elbow exercises
- Forearm and wrist exercises
- Hand and finger exercises

## **6. What is the full form of PNF?**

**Ans.** Proprioceptive Neuromuscular Facilitation (PNF) is an expansion technique used to increase the elasticity of the muscles and has shown a favourable impact on active and passive movement (Funk et al., 2003; Lucas and Koslow, 1984; Wallin et al., 1985).

# **III. Fill in the Blanks**

1. Force is produced \_\_\_\_\_.

Ans. push or pulls upon an object.

2. \_\_\_\_\_ component helps in improving the number and size of mitochondria.

Ans. The muscular Skeletal System

3. \_\_\_\_\_ is a swedish method to develop the endurance.

Ans. Fartlek

4. \_\_\_\_\_ method has incomplete recovery in endurance.

Ans. Interval

5. Body weight \_\_\_\_\_ with endurance traning.

Ans. acts

6. \_\_\_\_\_ is responsible for great range of motion.

Ans. ballistic method

7. Flexibility movements done with rhythmic movements are called as \_\_\_\_\_.

Ans. Ballistic method.

8. Universally practised stretching method is \_\_\_\_\_.

Ans. Ballistic.

## IV. State whether True or False

1. Passive flexibility training is done with internal help

Ans. False.

2. The bones are attached to each other by ligaments.

Ans. True.

3. Muscles are made up of two types of fibres namely, fast twitch and slow twitch fibre.

Ans. True.

4. Physical fitness indirectly influences the health of an individual.

Ans. False.

5. The ability of muscles to consume oxygen while working is known as aerobic capacity.

Ans. False.