Chapter - 3

Physical and Physiological

Aspects of Physical Education and Sports

I. Long Answer Questions

1. What is the difference between growth and development? Explain.

Ans. This chapter also covers factors that influence growth and development, as well as physical and physiological changes that occur during developmental stages. Heat up, conditioning, and cooling down are examples of physiological aspects, as are the effects of exercises on the muscular, digestive, circulatory, and respiratory systems. This is also covered in this chapter The mechanism by which the body expands in size and shape is referred to as development. It's a biological operation, after all. To put it another way, growth refers to a rise in mass. The mechanism of development begins in the mother's womb from the moment of conception. The fertilized egg begins to develop after birth, and this process continues until the child reaches full physical maturity.

2. Define growth and development and explain the factors affecting growth and development.

Ans. Individual development can be characterized as the emergence and expansion of an individual's capabilities. Growth is the foundation for the advancement of a child's functional abilities. The required level of development should not be achieved at a given stage if proper growth is not achieved. The acquisition of skills and knowledge often indicates the progression of a person's growth. Despite the fact that growth comes to an end at some point in life, progress continues until death.

3. Explain the effects of exercise on muscular system

Ans. Muscles of the skeletal, smooth, and cardiac systems make up the muscular system. It allows the body to shift, keeps posture, and circulates blood around the body. While certain muscles (such as the cardiac muscle) are fully autonomous, the nervous system controls the muscular systems of vertebrates. It is part of the musculoskeletal system, which includes the skeletal system and is responsible for human movement Myocytes, or muscle fibers, are made up of myofibrils, which are made up of sarcomeres, the essential building block of striated muscle tissue, much like other striated

muscles. Skeletal muscles perform a synchronized contraction by shortening each sarcomere when they are stimulated by an action potential.

4. Enlist and explain the effects of exercise on respiratory system.

Ans. A respiratory system is a biological system for animals and plants consisting of complex organs and structures for gas exchange (also referred to as the respiratory system or ventilatory system). The anatomy and physiology that allows this to happen differs dramatically depending on the organism's size, environment, and evolutionary background. The respiratory surface of land animals is internalized as lungs linings. Millions of small air sacs in the lungs exchange gas; in mammals and reptiles, these are called alveoli, and in birds, they are called atria.

5. Explain physical and physiological changes that take place during different developmental stages.

Ans. A warm-up is designed to increase body temperature and physiologically and mentally prepare a player to participate in a game. Warm-up periods can last between 15 and 20 minutes, according to researchers. The player can gradually increase the speed until he or she is running at 70% of maximum heart rate. A warm-up of this intensity allows for a greater range of motion in the joints while also enhancing aerobic efficiency. As a result, the player's flexibility and movement performance increase. A 45-minute warm-up results in a 2 to 3 degree increase in body temperature.

II. Short Answer Questions

1. What is meant by cardiac output?

Ans. The quantity of blood supplied to different parts of the body is related to cardiac production, which is an essential component of how effectively the heart can satisfy the body's demands for tissue perfusion. The sustained transport of oxygen to the tissues by the systemic circulation of oxygenated blood at an adequate pressure from the left ventricle of the heart through the aorta and arteries is needed.

2. Write down the full form of MV.

Ans. The user must have write permission for the directories the file will be moved between in order to use mv. This is because mv modifies the content of both the source and goal directories involved in the transfer. The file's timestamp is not changed by using the mv command on files on the same filesystem.

3. What is Muscle Hypertrophy?

Ans. Training muscles grow in size as a result of daily exercise. The diameter and length of muscle fibers increases. Protein, glycogen, and enzyme levels are all increased.

4. List the developmental stages of life.

Ans. Every game has its own set of rules and regulations, which each player must follow. The players understand that breaking any law is a moral offense that can lead to their exclusion from the squad.

5. What is general warm-up?

Ans. A proper warm-up must include a variety of main elements. These elements, or sections, should all work together to prepare the athlete for sports performance and reduce the risk of sports injury.

6. What is specific warm-up?

Ans. Warming up usually entails a gradual rise in physical activity intensity (a "pulse raiser"), joint mobility exercises, and stretching, accompanied by the activity. Athletes might jog slowly to warm up their muscles and increase their heart rate before running or playing an intense sport. Warm-ups must be unique to the exercise in order to stimulate the muscles that will be used.

III. Fill in the Blanks

1. Growth refers to the process through which body increases in ______and _____.

Ans. Growth refers to the process through which body increases in <u>size and</u> <u>shape.</u>

2. There are ______ major factors which directly or indirectly influence the growth and development of a ______.

Ans. There are growth major factors which directly or indirectly influence the growth and development of a observed .

3. Hormones play an important role in regulating the process of ______ and _____.

Ans. Hormones play an important role in regulating the process of growth and development

4. An increased tidal volume, or increased respiratory rate, or both is referred to as ______.

Ans. breathing frequency.

5. Heart rate ______ during submaximal exercise and it is caused due to increase in ______ activity

Ans. Heart rate exercise during submaximal exercise and it is caused due to increase in range activity.

6. ______ with high velocity movement develops exploring strength or power.

Ans. Speed