EXERCISE PHYSIOLOGY

UNIT-1:- Skeletal muscles structure and function

Introduction, Meaning, Need, and Scope of Exercise Physiology. Types of muscles – structure of skeletal muscles-microscopic structure of the myofibril and contractile Skeletal muscles- chemical composition-fuel for muscular work-Energy for muscular contraction-blood supply for skeletal muscle and muscle activity. Effect of exercise on muscular system.

UNIT-2:- Respiratory and Exercise

Structure and properties of lungs-Mechanism of respiration- Gaseous exchange and pulmonary ventilation- Transport of oxygen and carbon dioxide- Effect of exercise on the Respiratory system.

UNIT -3:- Circulatory system and exercise

Heart –structure- heart rate-Stroke volume- Cardiac output and heart volume-circulation of blood—types of circulation- Blood pressure- Effect of exercise on the Respiratory system.

UNIT -4:- Physiological aspect of exercise and sports

Oxygen Dept-forced expiratory Volume-Breathing capacity- recovery-second wind– warming up-Ergogenic aids in exercise and sports-Physiological aspect of development of strength-Endurance-Skill-Speed-Agility and Coordination-Endocrine system-Effect of Alcohol, drugs and smoking on athletic performance.

UNIT -5:- Altitude and Temperature Regulation

High Altitude-Low Altitude-hot and Cold Climate-Physical adaptations-Heat Gained, regulation of body temperature-temperature measurements, age ,sex, di-urinal changes- heat acclimatization.

Reference books

1) Astrand Per-Olaf & Rodhal kaare (1986) Text book of work physiology, Physiological basis of exercise 111 Ed. New York : Mc Graw Hill.
2) Bruce ,J,Noble (1986) Physiology of Exercise and sports St.Louis: C.V.Mosby
3) Karpovich .P.V.Physiology of muscular Activity.
4) Fox E.L (1984) Sports Physiology lied .Jagan; Halt saunders
5) Fallsa, H.B. (1968) Exercise Physiology NewYork: Academic press

ANDHRA UNIVERSITY
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MODEL QUESTION PAPER

EXERCISE PHYSIOLOGY

Time 3 hours **Max. Marks (5x20) = 100**

Answer any Five Questions. All Questions carry equal Marks.

1. Write introduction, meaning, need, and scope of exercise Physiology.
2. Discuss muscle structure and composition and effects of exercise on muscular system.
3. Write structure and properties of respiration and effects of exercise on respiration system.
4. What is respiration its types and define different types of lung volumes.
5. Write about circulatory system and effects of exercise on circulatory system.
6. Write short notes on the following:
    a. Anabolism and Catabolism.
    b. Aerobic Metabolism.
    c. Phosphagen system
    d. Anabolic glycolysis.
7. Write short notes on the following:
    a. Variation in Temperature and Humidity.
    b. Thermo Regulation.
    c. Sports Performance in Humid Climate.
    d. Doping and WADA.
8. What are the Physical benefits of having a regular exercise program?