



Received

# Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)  
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B  
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – May 2024

II Semester

Class: I UG

Major: Physical Education

Time: 3 Hours

Max. Marks: 100

## 23BPEC06 Exercise Physiology

### Course Outcomes:

- CO1. The student would be empowered with the applicable knowledge of physiology in physical activity and sports.
- CO2. The learner would be able to incorporate this knowledge in the training and coaching Programme for the betterment of his trainee's performance.
- CO3. Apply the major concepts, theories, and empirical findings in health science.
- CO4. Compare the responses of individuals of differing levels of fitness to a variety of relative and absolute exercise intensities
- CO5. Formulate the physiological bases for differences in exercise responses and performance

### Part A

10 x 1 = 10

### Choose the Correct Answer

1. Regular exercise has been shown to improve \_\_\_\_\_, enhancing the efficiency of muscle contractions. CO1K1
  - a. Cardiovascular health
  - b. Bone density
  - c. Neuromuscular coordination
  - d. Respiratory function
2. During exercise, the body releases \_\_\_\_\_, often referred to as the "feel-good" hormones. CO1K1
  - a. Insulin
  - b. Cortisol
  - c. Endorphins
  - d. Melatonin
3. \_\_\_\_\_ exercise, such as light aerobic activity, can enhance the replenishment of myoglobin oxygen stores. CO2K2
  - a. High-intensity interval
  - b. Strength training
  - c. Isometric
  - d. Endurance
4. Active recovery, such as light aerobic exercise or gentle stretching, can help reduce \_\_\_\_\_ and enhance recovery. CO2K2
  - a. Muscle soreness
  - b. Hydration levels
  - c. Oxygen intake
  - d. metabolic rate
5. During exercise in hot climates, the body relies \_\_\_\_\_ to cool itself through the evaporation of sweat. CO2 K3
  - a. Shivering
  - b. Conduction
  - c. Convection
  - d. Thermogenesis
6. Exercising in \_\_\_\_\_ climates requires proper hydration to prevent dehydration and electrolyte imbalances. CO3 K3
  - a. Hot
  - b. Cold
  - c. Tropical
  - d. Arid
7. Exposure to high altitude can lead to on \_\_\_\_\_, including increased respiratory rate, as the body adapts to lower oxygen levels. CO4 K4
  - a. Hyperthermia
  - b. Hypoxia
  - c. Hypertension
  - d. Hyponatremia
8. Training at high altitudes is thought to stimulate the production of \_\_\_\_\_, which can improve endurance performance at sea level CO4 K5
  - a. Erythropoietin
  - b. Insulin
  - c. Cortisol
  - d. Serotonin
9. The Sliding Filament Theory explains how muscles contract by the sliding of \_\_\_\_\_ over \_\_\_\_\_. CO5 K5
  - a. Ligaments and Tendons
  - b. Myosin and Actin
  - c. Sarcomeres and Z-lines
  - d. Cartilage and Bone
10. The \_\_\_\_\_ is a measure of the energy contained in a flowing fluid, such as water in a river or air in a wind turbine. CO5 K5
  - a. Gravitational potential energy
  - b. Kinetic energy
  - c. Thermal energy
  - d. Nuclear energy

**Part B**

**5 x 6 = 30**

**Answer all questions**

**Each answer should not exceed 400 words or two pages**

- 11.a. Explain the effect of resistance training on neuromuscular system. CO1 K1  
(or)
11. b. What are the changes occur in the respiratory system during high-intensity exercise? CO2 K1
- 12.a. How does the body adapt metabolically to endurance training? CO1 K2  
(or)
- 12.b. What are the ways excess lactic acid generated and eliminated during physical activity? CO2 K2
13. a. Write short note on Thermoregulations. CO3 K3  
(or)
13. b. Write the effect of high altitude training on physical performance. CO3 K3
14. a. Compare the age related changes and exercises. CO4 K4  
(or)
- 14.b. What are the side effects of using ergogenic aids in sports performance? CO4 K4
- 15.a. Discuss the effect of exercise on muscle size. CO4 K5  
(or)
15. b. Explain the effect of exercise on stroke volume. CO4 K5

**Part C**

**5 x 12 = 60**

**Answer all questions**

**Each answer should not exceed 800 words or four pages**

16. a. Discuss the hormonal response to exercise difference between aerobic and anaerobic activities? CO1 K1  
(or)
16. b. How does exercise contribute to improving mental health. CO1 K1
- 17.a. Elaborate on the role of myoglobin in storing and transporting oxygen within muscle cells. CO2 K2  
(or)
- 17.b. Discuss the significance of proper hydration in facilitating the recovery of energy reserves. CO2 K2
- 18.a. What are the physiological responses to exercise in cold? CO3 K3  
(or)
- 18.b. What are the physiological responses to exercise in heat? CO3 K3
- 19.a. Evaluate the physiological reaction to acute altitude exposure and acclimatization. CO4 K4  
(or)
19. b. Evaluate the physiological reaction to chronic altitude exposure. CO4 K4
- 20.a. Label the Sliding filament theory of muscular contraction. CO5 K5  
(or)
20. b. Write about the effect of exercise on digestive system of human body? CO5 K5