



Jambath

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 (now MoE)
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641043, Tamil Nadu, India

Bachelor's Degree Examination – April 2026
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. VO_2 max is an indicator of _____ CO2 K2
a. Muscle size b. Anaerobic power c. Aerobic capacity d. Flexibility
2. Which hormone decreases during vigorous exercise? CO2 K2
a. Growth hormone b. Insulin c. Cortisol d. Noradrenaline
3. Complete restoration of glycogen stores may take approximately _____ CO1 K1
a. 5 minutes b. 30 minutes c. 24–48 hours d. 1 week
4. The primary source of immediate energy during short, high-intensity exercise is _____ CO1 K1
a. Fatty acids b. Glycogen c. ATP-PC system d. Protein
5. The normal average core body temperature of a healthy adult is approximately _____ CO1 K1
a. 35°C b. 36°C c. 37°C d. 38°C
6. The thermoregulatory center of the body is located in the _____ CO1 K1
a. Cerebellum b. Hypothalamus c. Medulla d. Spinal cord
7. Exercise performance at high altitude is mainly limited due to reduced _____ CO1 K1
a. Nitrogen levels b. Oxygen availability
c. Carbon dioxide levels d. Muscle mass
8. VO_2 max at high altitude generally _____ CO2 K2
a. Increases significantly b. Remains unchanged
c. Decreases d. Doubles
9. The functional unit of a muscle fiber is called the _____ CO1 K1
a. Myoglobin b. Sarcoplasm c. Sarcomere d. Fascicle
10. The aerobic system mainly contributes energy during _____ CO2 K2
a. 100 m sprint b. Shot put c. Marathon running d. Weight lifting

Part B
Answer all questions
Each answer should not exceed 400 words or two pages

5 x 6 = 30

- 11.a. Analyze the metabolic adaptations resulting from regular exercise training. CO2 K4
(or)
- 11.b. Evaluate the hormonal regulation during varying exercise intensities. CO2 K4
- 12.a. Explain the relationship between metabolism and exercise. CO2 K2
(or)
- 12.b. Illustrate the energy replenishment mechanisms during post-exercise recovery. CO2 K2
- 13.a. Describe the physiological responses to exercise in hot environments. CO2 K2
(or)
- 13.b. Justify the importance and mechanisms of heat acclimatization. CO2 K4
- 14.a. Assess the physiological responses to acute exposure to high altitude. CO2 K4
(or)
- 14.b. Explain the physiological adaptations to chronic high-altitude exposure. CO2 K2
- 15.a. Summarize the concept of energy expenditure during physical work CO2 K1
(or)
- 15.b. Explain the structure of muscles with neat diagram. CO2 K4

Part C
Answer all questions
Each answer should not exceed 800 words or four pages

5 x 12 = 60

- 16.a. Analyze the cardio-respiratory changes during exercises. CO3 K4
(or)
- 16.b. Evaluate the Effects of exercise and training on health and fitness CO2 K5
- 17.a. Explain the types of energy metabolism. CO2 K2
(or)
- 17.b. Illustrate the mechanisms involved in the removal of excess lactic acid produced during exercise. CO3 K3
- 18.a. Analyze the physiological responses to exercise in high altitude. CO3 K4
(or)
- 18.b. Assess the health risks associated with exercise in cold condition. CO4 K5
- 19.a. Evaluate the role of ergogenic aids in enhancing physical activity and performance. CO4 K5
(or)
- 19.b. Analyze age-related physiological changes and their implications for exercise participation. CO3 K4
- 20.a. Explain and illustrate the sliding filament theory of muscular contraction. CO2 K2
(or)
- 20.b. Interpret the Effect of Exercise on muscular system. CO3 K4
