



## 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 Arrear Examination - May 2025

#### IV Semester

Batch : 2021  
Major : Physical Education

Time : 3 Hours  
Max. Marks : 100

#### 21BPEC12 Physiology of Exercise

##### Course Outcomes:

CO1: Define the human anatomy and physiology.

CO2: Describe the kinesthetic movement and the physiological effects of exercise in human body

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

- Any activity that uses muscle groups can be maintained continuously and is rhythmic in nature is called as  
a. Ballistic exercise  
b. Circuit training exercise  
c. Stretching exercise  
d. Aerobic exercise  
CO1K2
- Skeletal muscles contain an undifferentiated form of stem cell that is known as  
a. Mesenchymal cell  
b. Astrocyte  
c. Satellite cell  
d. Eosinophil  
CO2K2
- Which type of muscle fibre generates the more force production?  
a. Type I  
b. Type II  
c. Type II x  
d. Type II a  
CO2K3
- The direct source for energy for muscular contraction is  
a. ATP  
b. ADP  
c. Glycogen  
d. Phosphocreatine  
CO2K3
- The power house of the muscle is known as  
a. Myoglobin  
b. Myosin  
c. Mitochondria  
d. Enzyme  
CO2K3
- Average human beings at rest breathe in and out \_\_\_\_\_ times in a minute.  
a. 15- 18  
b. 30- 32  
c. 28- 30  
d. 25- 28  
CO2K3
- Storage of ATP is  
a. Liver  
b. Muscle  
c. Gall Bladder  
d. Pancreas  
CO1K2
- During exercise the blood supply to the muscle is  
a. Decreased  
b. Increased  
c. Fluctuated  
d. Maintained  
CO2K3
- Glycogen is stored in which region of a muscle fiber?  
a. Sarcoplasm  
b. Sarcolemma  
c. Sarcoplasmic reticulum  
d. T-Tubules  
CO2K2
- Which chamber of the heart has the thickest walls?  
a. right atrium  
b. left atrium  
c. right ventricle  
d. left ventricle  
CO1K2

**Part B**

**5 x 6 = 30**

**Answer ALL questions**

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

- |   |       |
|---|-------|
| 11.a. Define Exercise Physiology and Explain its scope.             | CO3K3 |
| (or)  |       |
| 11.b. Write about the physical properties of muscles.               | CO3K3 |
| 12.a. Enumerate the functions of muscles.                           | CO3K3 |
| (or)  |       |
| 12.b. Elaborate the chemical composition of muscles.                | CO3K3 |
| 13.a. Describe the chemistry of muscular contraction.               | CO3K3 |
| (or)  |       |
| 13.b. Write about the nature and importance of exercise physiology. | CO3K3 |
| 14.a. Describe the types of muscle fibers.                          | CO3K3 |
| (or)  |       |
| 14.b. Describe about the ventilation during exercise.               | CO3K3 |
| 15.a. Write about cardiac cycle.                                    | CO2K3 |
| (or)  |       |
| 15.b. Explain about Stroke volume.                                  | CO2K3 |

**Part C**

**5 x 12 = 60**

**Answer ALL questions**

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

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|--|-------|
| 16.a. Draw a neat diagram of Structure of skeletal muscles and explain it? | CO2K2 |
| (or)   |       |
| 16.b. Explain about the sliding filament theory of muscular contraction    | CO2K2 |
| 17.a. Describe the effect of exercise and training on respiratory system.  | CO2K2 |
| (or)   |       |
| 17.b. Explain about the effect of exercise on nervous system.              | CO2K2 |
| 18.a. Write about the effect of exercise and training on muscular system.  | CO2K2 |
| (or)   |       |
| 18.b. Write about the circulatory system and exercise.                     | CO2K2 |
| 19.a. Enumerate about the different lung volume and its measurements.      | CO2K3 |
| (or)   |       |
| 19.b. Write about cardiac output and blood pressure.                       | CO2K3 |
| 20.a. Describe about the heart rate during and after exercise.             | CO2K3 |
| (or)   |       |
| 20.b. Write about the nervous control of muscular movement.                | CO2K3 |

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