



*J. Sambath*

## 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 - November 2024

#### I Semester

Class : I UG / 2023 Batch

Major : Physical Education

Time : 3 Hours

Max. Marks : 100

### 23BPEC02 Basic and Systemic Anatomy & Physiology

#### Course Outcomes:

1. The student will be oriented with the basic structure and function of human body by identifying, comparing and relating different systems, organs and their functional and structural units.
2. Able to Relate and interpret the role of exercise on body systems and its relation to wellbeing, through literature reviews and physical conditioning exercises.
3. Adapt the art to apply the knowledge of anatomy and physiology in physical activity classes at school level.
4. Construct anatomy and physiology related pedagogical materials exploring their creative imaginations while working in group and using technology.
5. Appraise the effects during the training and practical sessions.

#### Part A

10 x 1 = 10

#### Choose the Correct Answer

1. What is the smallest unit of life in the human body?  
a. Tissue  
b. Organ  
c. Cell  
d. Molecule  
CO1K1
2. The study of the structure of body parts and their relationships to one another is known as:  
a. Physiology  
b. Anatomy  
c. Pathology  
d. Histology  
CO2K1
3. Which type of muscle is under voluntary control?  
a. Cardiac muscle  
b. Smooth muscle  
c. Skeletal muscle  
d. Involuntary muscle  
CO2K1
4. Which of the following muscle is found in the heart?  
a. Smooth muscle  
b. Skeletal muscle  
c. Cardiac muscle  
d. Involuntary muscle  
CO1K1
5. During inhalation, which of the following muscles contracts to help expand the thoracic cavity?  
a. Abdominal muscles  
b. Intercostal muscles  
c. Diaphragm  
d. Trapezius  
CO3K2
6. What is the primary function of the circulatory system?  
a. To exchange gases in the lungs  
b. To deliver oxygen and nutrients to cells  
c. To break down food  
d. To produce hormones  
CO5K3
7. The functional unit of the kidney is called:  
a. Alveolus  
b. Nephron  
c. Neuron  
d. Glomerulus  
CO1K1
8. Which of the following is part of the central nervous system?  
a. Spinal cord  
b. Peripheral nerves  
c. Sensory receptors  
d. Ganglia  
CO2K1
9. Which gland is known as the "master gland" of the endocrine system?  
a. Thyroid gland  
b. Pituitary gland  
c. Adrenal gland  
d. Pancreas  
CO2K1
10. The hormone responsible for lowering blood sugar levels is:  
a. Glucagon  
b. Insulin  
c. Epinephrine  
d. Cortisol  
CO3K2

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

**5 x 6 = 30**

- |   |       |
|---|-------|
| 11.a. Describe the different types of joints in the human body.<br>(or)                   | CO2K1 |
| 11.b. Explain the various anatomical movements and their significance.                    | CO3K3 |
| 12.a. Describe the different types of muscular contractions and their roles.<br>(or)      | CO2K1 |
| 12.b. How are muscles classified based on their structure and function?                   | CO1K3 |
| 13.a. Draw a neat diagram of the respiratory system and label its key components.<br>(or) | CO1K2 |
| 13.b. Summarize the main functions and components of the Circulatory System.              | CO3K2 |
| 14.a. Define and differentiate the various classifications of the Nervous System.<br>(or) | CO2K2 |
| 14.b. Discuss the effects of the digestive system and its functions.                      | CO5K3 |
| 15.a. Explain the structure and functions of the pituitary gland.<br>(or)                 | CO4K2 |
| 15.b. Describe the structure of the alimentary canal and its functions in digestion.      | CO3K2 |

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

**5 x 12 = 60**

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|---|-------|
| 16.a. Explain the structure and function of a human cell with diagram.<br>(or)                        | CO2K3 |
| 16.b. Discuss how exercise impacts the skeletal system.   | CO3K2 |
| 17.a. Describe the Sliding Filament Theory of muscle contraction.<br>(or)                             | CO2K2 |
| 17.b. How exercise influences the muscular system.  | CO4K4 |
| 18.a. Write short notes on : Stroke volume, Cardiac Output and Cardiac index.<br>(or)                 | CO3K2 |
| 18.b. Explain the process of respiration and its mechanisms.  | CO3K1 |
| 19.a. Evaluate the effects of exercise on the nervous system.<br>(or)                                 | CO4K3 |
| 19.b. Describe the structure and functional roles of the excretory system.                            | CO3K2 |
| 20.a. Explain the structure and functions of the pituitary gland.<br>(or)                             | CO2K2 |
| 20.b. Categorize and explain the different types of glands in the human body. except pituitary gland. | CO4K3 |

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