

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024  
(First Semester)

Branch - CLINICAL NUTRITION AND DIETETICS

**PHYSIOLOGY IN HEALTH AND DISEASE**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

| Module No. | Question No. | Question                                                                                                                                                                                                                         | K Level | CO  |
|------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|
| 1          | 1            | Which one of the following is associated with the generation of ATP, and the energy currency of the cell?<br>a) Ribosome                      b) Nucleus<br>c) Golgi apparatus              d) Mitochondria                      | K1      | CO2 |
|            | 2            | _____ Cells keep ready to mount a rapid and vigorous attack as soon as the same pathogens infect the body again.<br>a) Killer T-cells                  b) Helper T-cells<br>c) Memory T-cells              d) Suppressor T-cells | K2      | CO4 |
| 2          | 3            | The duration of the cardiac cycle is _____ sec.<br>a) 0.5      b) 0.3      c) 0.8      d) 0.6                                                                                                                                    | K1      | CO1 |
|            | 4            | Which of the following is termed as shortness of breath or feeling of difficulty in breathing?<br>a) Hyperpnoea                  b) Dyspnoea<br>c) Apnoea                        d) Hypocapnia                                   | K2      | CO2 |
| 3          | 5            | The total secretion of gastric juice per day starts from _____ mL.<br>a) 1000-1500mL      b) 1300-1800mL<br>c) 1500-2000mL      d) 1400-1900mL                                                                                   | K1      | CO2 |
|            | 6            | _____ is an inflammation of the glomerular nephrons caused by toxins of certain streptococcal bacteria.<br>a) Chronic glomerulonephritis<br>b) Kidney failure<br>c) Acute glomerulonephritis<br>d) Dialysis                      | K2      | CO1 |
| 4          | 7            | _____ hormone controls the protein, lipid and carbohydrate metabolism.<br>a) Prolactin                      b) Growth<br>c) Luteinizing hormone      d) Thyroid-stimulating hormone                                              | K1      | CO1 |
|            | 8            | Sperm is stored and matured in _____.<br>a) Epididymis                  b) Vas deferens<br>c) Ejaculatory duct            d) Urethra                                                                                             | K2      | CO2 |
| 5          | 9            | The highly branched structures at one end of a neuron, which conducts impulses towards the cell body is called as _____.<br>a) Cell body                      b) Dendrites<br>c) Schwann cells                d) Axon            | K1      | CO3 |
|            | 10           | Which condition is known as permanent or a temporary loss of taste sensation?<br>a) Hypogeusia                  b) Parageusia<br>c) Ageusia                        d) Hypergeusia                                                | K2      | CO3 |

Cont....

**SECTION - B (35 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

| Question No. | Question                                                                                                                | K Level | CO  |
|--------------|-------------------------------------------------------------------------------------------------------------------------|---------|-----|
| 11.a.        | What is meant by anemia? Write the clinical signs and symptoms of anemia.                                               | K4      | CO4 |
|              | (OR)                                                                                                                    |         |     |
| 11.b.        | Differentiate between allergy and infection.                                                                            |         |     |
| 12.a.        | Explain in detail on cardiac cycle.                                                                                     | K3      | CO2 |
|              | (OR)                                                                                                                    |         |     |
| 12.b.        | Highlight the role of lungs in exchange of gases.                                                                       |         |     |
| 13.a.        | Summarize the process involved in formation of urine.                                                                   | K4      | CO4 |
|              | (OR)                                                                                                                    |         |     |
| 13.b.        | Explain on types of dialysis.                                                                                           |         |     |
| 14.a.        | Highlight the importance of hormonal regulation in type I and type II diabetes.                                         | K3      | CO1 |
|              | (OR)                                                                                                                    |         |     |
| 14.b.        | Discuss on menstrual cycle.                                                                                             |         |     |
| 15.a.        | Summarize the following (i) Afferent and Efferent nerves, (ii) Blood brain barrier; (iii) conduction of nerve impulses. | K3      | CO2 |
|              | (OR)                                                                                                                    |         |     |
| 15.b.        | Sketch the structure of eye and write its mechanism.                                                                    |         |     |

**SECTION -C (30 Marks)**

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

| Question No. | Question                                                                                  | K Level | CO  |
|--------------|-------------------------------------------------------------------------------------------|---------|-----|
| 16           | Explain in detail on pathophysiology and clinical manifestation of cancer.                | K4      | CO4 |
| 17           | Elaborate the respiration mechanism with suitable illustration.                           | K3      | CO2 |
| 18           | Discuss the function of digestive system with suitable diagram.                           | K3      | CO1 |
| 19           | Explain the types of muscle fiber with its mechanism.                                     | K3      | CO2 |
| 20           | Elaborate the following neurological dysfunction (i) Parkinson's diseases, (ii) Epilepsy. | K4      | CO5 |

Z-Z-Z

END