

**MODEL PAPER**  
**1<sup>st</sup> Year Examination, June 2025**

**Program: D. Pharm**  
**Year: 1<sup>st</sup> Year**  
**Course: Human Anatomy & Physiology**  
**Course Code: ER20-14T**

**SECTION I**

**Short Answer type Question**

**(3 marks each)**

**Unit-1**

1. What is the role of the endoplasmic reticulum in the cell?
2. What are the function of ribosomes in a cell?
3. Explain the role of the Golgi apparatus.
4. Define the three types of muscle tissue and describe one characteristic of each.
5. Describe the structure and function of squamous epithelium.
6. What is the structure of long bones and their function?
7. What are the types of joints based on movement?
8. Explain the function of the axial skeleton.
9. What is the significance of bone marrow? What is the role of ligaments in joints?

**Unit-2**

10. Describe the process of hemopoiesis.
11. What are the functions of RBCs, WBCs, and platelets?
12. Function of haemoglobin in red blood cells?
13. Describe the structure and function of the spleen.
14. What is the composition of lymph and how is it formed?
15. What are the stages of the cardiac cycle?

**Unit-3**

16. What is the role of the diaphragm in respiration?
17. Describe the mechanism of inspiration and expiration.
18. Write down the structure and function of the stomach in digestion?
19. Define muscle contraction. Write down the mechanism of it.
20. What is the function of actin and myosin in muscle contraction?
21. What is the function of bile in the digestive system?
22. What is the primary function of the respiratory system?

**Unit-4**

23. What are the main divisions of the nervous system?
24. What is the function of the cerebellum?

25. Describe the structure and function of the spinal cord.
26. What is the role of kidneys in urine formation?
27. What is the renin-angiotensin system and how does it regulate blood pressure?
28. Describe the structure and function of the Nephron.
29. How do thyroid hormones affect metabolism?
30. What is the function of insulin in the body? Mention the primary source of it.

## SECTION II

### Long Answer type Question

(5 marks each)

#### Unit-1

1. Define Anatomy and Physiology. Explain the term superior, inferior, proximal and distal with proper explanation.
2. Describe the structure and functions of the cell organelles with a neat diagram.
3. Draw a proper label diagram of a nervous tissue & explain its characteristic.
4. Write down the structure and function of appendicular bone. Give two examples of joint disorder with their characteristics.
5. Explain different type of movement.

#### Unit-2

6. Define blood. Write down the composition of blood.
7. Write down the mechanism of blood clotting.
8. Define ECG. Draw an ideal ECG graph and explain all peaks of the graph.
9. Define systole and diastole. Explain blood pressure regulation mechanisms.
10. Describe the anatomy and physiology of the heart with a labelled diagram.

#### Unit-3

11. Describe the anatomy and physiology of the lungs with a labelled diagram.
12. Write a note on the respiratory volumes and capacities with definitions.
13. Explain the anatomy of the gastrointestinal tract with proper labelled diagram and the physiology of digestion.
14. Describe the structure and function of the liver and pancreas.
15. Describe anatomy and functions of accessory glands of GIT.

#### Unit-4

16. Explain anatomy and physiology of eye along with the mechanism of vision.
17. Explain anatomy and physiology of ear along with the mechanism of hearing.
18. Describe the endocrine functions of the pituitary and thyroid glands.
19. Explain the physiology of urine formation and the role of kidneys in osmoregulation.
20. Describe the anatomy and physiology of the sympathetic and parasympathetic nervous systems.

**Prepared By: Mr. Kishor Kumar Roy**

**Reviewed By: Apoorva Kumari**

<p><b>Disclaimer:</b> - This is a Model Paper. The Question in End semester examination will differ from the Model Paper. This Model paper is meant for practice only.</p>
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