

**HUMAN ANATOMY AND PHYSIOLOGY—I****Paper—3**

Time : Three Hours]

[Maximum Marks : 80

- N.B. :—** (1) Question No. 1 is compulsory.  
(2) Attempt any **four** questions from remaining.  
(3) Draw neat labelled diagram wherever necessary.

1. (i) Discuss the type of ventricles present in human body.  
(ii) Explain the importance of pectinate and papillary muscles in heart.  
(iii) Explain the intermediate stages of erythrocyte formation.  
(iv) Explain the terms, inspiratory reserve volume expiratory reserve volume and tidal volume.  
(v) Describe the structure and function of lymph node.  
(vi) Describe the composition of extracellular matrix in connective tissue.  
(vii) Discuss the blood pressure present at different sites of cardiovascular system. 4×5=20
2. (a) Explain the cardiac cycle in detail. 10  
(b) Describe the conduction system within heart and explain the action potential. 5
3. Explain the act of respiration and discuss the principle of partial pressure and neural regulation of respiration. 15
4. (a) Describe the Extrinsic and Intrinsic Pathway of Blood Clotting phenomenon. 10  
(b) Write the composition and functions of blood. 5
5. (a) Give the classification of epithelial tissue and explain the characteristics and location with suitable examples. 10  
(b) Explain the cell cycle with the help of suitable diagram. 5
6. (a) Describe the composition and functions of lymph and discuss the role of Spleen in lymphatic system. 10  
(b) Add a note on blood groups. 5
7. (a) Discuss the factors affecting blood pressure and explain the different mechanisms involved in its regulation. 10  
(b) Explain the ECG with the help of suitable diagram. 5