

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate full marks.
 3. Draw neat, labeled diagrams wherever necessary.

- Q.1 a) Answer the following:-** **16**
- i) Justify- Cartilage as a connective tissue
 - ii) Justify- Plasma membrane is semi-permeable membrane
 - iii) Justify- Thymus as a primary lymphatic organ.
 - iv) Justify- blood O is universal donor.
 - v) Define: transudate, exudates
 - vi) Define: contractility and excitability of muscle Tissue
 - vii) Define homeostasis
 - viii) Enlist any four components of second line defense of non-specific immunity.
- b) Answer the following:-** **04**
- i) Define- interstitial fluid
 - ii) Enlist any two conditions in which High Count of Neutrophils is seen.
 - iii) _____ type of muscle is voluntary and striated.
 - iv) Enlist the types of cell junctions.
- Q.2 a) Answer any Two of the following** **08**
- i) Write short notes on Lifecycle of RBC
 - ii) Describe the process of Thrombopoiesis and Platelet plug formation.
 - iii) Explain principle of blood grouping in detail.
- b) Write a short note on Any TWO of the following** **04**
- i) Polycythemia and thrombocytopenia
 - ii) Sickle cell anemia and pernicious anemia
- Q.3 a) Answer Any TWO of the following** **08**
- i) Give detailed account of muscle proteins
 - ii) Explain microscopic anatomy of skeletal muscle.
 - iii) With the help of a neat, labeled diagrams explain anatomy and physiology of smooth muscle
- b) Answer Any ONE of the following** **04**
- i) Describe sliding filament mechanism of skeletal muscle contraction
 - ii) With the help of a neat, labeled diagram explain Neuromuscular Junction in detail.
- Q.4 a) Answer the following** **08**
- i) Draw a neat, labeled diagram of Lymph node.
 - ii) Describe the organization of lymphatic vessels and explain the formation and flow of lymph

- b) Write a short note on **ONE** of the following 04
- i) Describe Salient features of epithelial tissue and give detail classification
 - ii) Describe the various fibers and their role in connective tissue and enlist the cells of connective tissue.

- Q.5** a) Answer **Any ONE** of the following 04
- i) Draw a neat, labeled diagram of plasma membrane.
 - ii) Explain the principle and factors affecting diffusion.

- b) Answer **Any ONE** of the following 04
- i) Describe muscle metabolism in detail
 - ii) Write a note on Excitation – contraction coupling

- c) Answer **Any ONE** of the following 04
- i) Describe the mechanisms involved in vasodilatation in inflammation.
 - ii) Write a short note on chemical mediators of acute inflammation.

- Q.6** a) Answer **Any TWO** of the following 08
- i) Write a short note on cell mediated immunity
 - ii) Explain the process of blood coagulation in detail
 - iii) Describe the process of phagocytosis in detail

- b) Answer **Any ONE** of the following 04
- i) Describe the outcomes/fate of acute inflammation
 - ii) Describe role of different cells in chronic inflammation.