

(Time: 3 Hours)

[Total marks: 70]

- N.B: (1) **All** questions are **Compulsory**  
 (2) Answer **all** sub questions **together**.  
 (3) **Draw neat labeled diagram wherever necessary.**

1. (a) Answer the following 12
- i. Give location and function of Areolar connective tissue
  - ii. What is pinocytosis
  - iii. Enlist functions of lymphatic system.
  - iv. Enlist the cardinal signs of Inflammation
  - v. Write the classification of muscles.
  - vi. What is erythroblastosis fetalis
- (b) **Answer the following** 3
- i. Deficiency of which nutrients cause megaloblastic anemia.
  - ii. Holding a book with stretched hand in steady position is \_\_\_\_\_ type of contraction.
  - iii. Enlist various cellular organelles.
2. (a) Answer any **TWO** of the following. 8
- i. Write a short note on Life Cycle of RBC.
  - ii. Classify White Blood Cells (WBCs). Name the respective conditions in which Neutrophil and Eosinophil count increases.
  - iii. Explain in brief Thrombocytopenia and leucopenia.
- (b) Answer any **ONE** of the following. 3
- i. Write a note on Leukemia
  - ii. Explain pathophysiology of megaloblastic and pernicious anemia.
3. (a) Answer any **TWO** of the following. 8
- i. Write a note on cardiac muscles.
  - ii. Describe in detail Neuromuscular Junction
  - iii. Distinguish between skeletal muscle and smooth muscle.
- (b) Answer any **ONE** of the following 3
- i. Draw a neat, labeled diagram showing organization of skeletal muscle.
  - ii. Write a note on isotonic and isometric contractions.
4. (a) Answer any **ONE** of the following. 4
- i. Discuss anatomy and functions of spleen
  - ii. Explain the process of formation and flow of lymph.
- (b) Answer any **ONE** of the following 4
- i. Explain the term Auto-immune disease. Give pathophysiology of Rheumatoid arthritis.
  - ii. Write a note on Myasthenia Gravis.

- (c) Answer any **ONE** of the following 3
- i. Draw a neat labeled diagram of Stratified squamous epithelium, discuss their location and functions
  - ii. Write a short note on Extracellular Matrix of connective tissue.

5. (a) Answer any **ONE** of the following. 4
- i. Write a detail account on passive transport mechanism across membrane.
  - ii. Explain the process of osmosis.

- (b) Answer any **ONE** of the following 4
- i. Give location and function of different types of muscles.
  - ii. Explain following terms
    - a. Neuromuscular Junction
    - b. Muscle tone

- (c) Answer any **ONE** of the following 3
- i. Compare and Contrast between Acute and Chronic type of Inflammation.
  - ii. Explain in brief the process of tissue repair.

6. (a) Answer any **TWO** of the following. 8
- i. Explain terms
    - a) Thrombocytopenia
    - b) Leukemia
    - c) Polycythemia vera
    - d) Anaemia
  - ii. Explain the process of synthesis of RBCs.
  - iii. Enlist functions of various components of blood.

- (b) Answer any **ONE** of the following 3
- i. Discuss various vascular changes during inflammation.
  - ii. Define inflammation, phagocytosis, and exudate

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