

Q.P. Code: 25607

(3 HOURS)

[ Total Marks: 80]

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

**Q 1 a) Answer the following****16**

- i) Define homeostatis and state components of feedback system
- ii) What is facilitated diffusion
- iii) Give location and function of Adipose tissue
- iv) Enlist the functions of lymphatic system
- v) Explain how RBCs are specialized carrier for Hemoglobin
- vi) Define the process of angiogenesis.
- vii) Define autoimmune disorders.
- viii) Enlist the connective tissue coverings of skeletal muscle.

**b) Answer the following****04**

- i) Define hemostatis
- ii) What is polycythemia vera.
- iii) Enlist various mediators of inflammation.
- iv) Name the neurotransmitter involved in muscle contraction

**Q.2. a) Answer Any TWO of the following****08**

- i) Describe the process of Blood Coagulation.
- ii) Write a note on composition of blood and its functions.
- iii) Describe the process of erythropoiesis.

**b) Write a short note on Any ONE of the following****04**

- i) Leukopenia and Leukocytosis
- ii) Leukemia

**Q.3. a) Answer Any TWO of the following****08**

- i) Describe neuromuscular junction with the help of a neat, labeled diagram.
- ii) Write a note on energy metabolism in skeletal muscle.
- iii) Distinguish between skeletal muscle and smooth muscle.

**b) Answer Any ONE of the following****04**

- i) Draw a neat labelled diagram of sarcomere and enlist various types of proteins involved in skeletal muscle.
- ii) Give examples of two structural, two regulatory proteins in skeletal muscle. Distinguish between Isotonic and Isometric type of muscle contraction.

**Q 4. a) Answer any ONE of the following****04**

- i) Discuss process of lymph formation and write a note on composition of lymph.
- ii) With the help of a neat labelled diagram, explain anatomy of lymph node.

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**b) Write a note on ANY ONE of the following**

**04**

- i) Grave's disease
- ii) Hypersensitivity reactions

**c) Answer any ONE of the following**

**04**

- i) Draw a neat labelled diagram of pseudostratified columnar epithelium, discuss its location and functions
- ii) Write a short note on Extracellular Matrix of Connective tissue.

**Q 5 a) Answer any ONE of the following**

**04**

- i) Draw a neat labelled diagram of plasma membrane and state its functions.
- ii) Discuss with suitable example the process of active transport.

**b) Answer any ONE of the following**

**04**

- i) Explain sliding filament theory of muscle contraction in detail.
- ii) Compare and contrast between skeletal and smooth muscles.

**c) Answer any ONE of the following**

**04**

- i) Write a short note on healing and repair process
- ii) Compare and contrast between transudate and exudates. Give role of mast cells in inflammation.

**Q 6 a) Answer any TWO of the following**

**08**

- i) Explain the Life Cycle of RBC in detail.
- ii) Enlist various types of immune reactions giving suitable examples of each type.
- iii) Write a note on humoral immunity.

**b) Answer any ONE of the following**

**04**

- i) Enlist the cardinal signs of Inflammation. Explain the role of histamine and Prostaglandins in inflammation.
- ii) Discuss the process of chemotaxis