MANIPAL COLLEGE
OF PHARMACEUTICAL SCIENCES
MANIPAL
A constituent institution of Manipal University

BPharm First semester Make-up Examination January 2023

PHA-BP101T, Human Anatomy and Physiology-I (Theory)

Date: 16/01/2023 **Duration:** - 2:00 pm to 5:00 pm **Max. Marks:** 75

MULTIPLE CHOICE QUESTIONS (20 Q x 1M= 20 marks)

1. RBC undergoes crenation when placed in
a. Hypertonic saline
b. Hypotonic saline
c. Isotonic saline
d. Normal saline

2. Energy is stored in an ionic concentration gradient in
   a. Diffusion
   b. Primary active transport
   c. Secondary transport
   d. Osmosis
3. Human immunodeficiency virus makes an entry into body cells through
   a. Receptor mediated endocytosis
   b. Phagocytosis
   c. Pinocytosis
   d. Exocytosis
4. What are the constituents of a plasma membrane?
   a. About 20% phospholipids, 75% cholesterol, 5% glycolipids
   b. About 75% phospholipids, 20% cholesterol, 5% glycolipids
   c. About 5% phospholipids, 20% cholesterol, 75% glycolipids
   d. About 40% phospholipids, 20% cholesterol, 40% glycolipids

5. Identify the cells present inside the matrix of a connective tissue
   a. Erythrocytes
   b. Thrombocytes
   c. Adipocytes
   d. Melanocytes

6. Which diagnostic technique is used to examine the fetus?
   a. Magnetic resonance imaging
   b. X- ray imaging

c. Sonography
d. Positron emission tomography

7. Exchange of substances between epithelium and connective tissue occurs by
   a. Diffusion
   b. Filtration
   c. Osmosis
   d. Absorption

8. Glands that secrete their products into ducts
   a. Exocrine
   b. Endocrine
   c. Holocrine
   d. Apocrine

9. Titin- a structural protein in the myofibril contributes to BOTH
   a. contractility and excitability
   b. elasticity and extensibility
   c. contractility and extensibility
   d. elasticity and contractility

10. A red blood cell's function is
    a. Nutrient transport
    b. Cytokine stimulation
    c. Blood cell proliferation
    d. Gas transport
11. Which of the following is a phagocyte?
    a. Monocyte
    b. Platelet
    c. Lymphocyte
    d. Basophil

12. Which of the following clotting factor has the most to do with strengthening and stabilizing a blood clot?
    a. Factor V
    b. Factor VII
    c. Factor XI
    d. Factor XIII
13. Which cells secrete hydrochloric acid in the stomach?
    a. Parietal cells
    b. G cells
    c. Chief cells

d. Surface mucous cells

14. For the diagnosis of cancer in thyroid tissue it will be appropriate to perform
    a. Blood test
    b. Biopsy
    c. Blood pressure measurement
    d. TSH analysis
15. This is an example of saddle joint
    a. Intercarpal
    b. Interphalangeal
    c. Carpometacarpal
    d. Radiocarpal
16. Blood passes from the left atrium into the left ventricle through
    a. Tricuspid valve
    b. Aortic valve
    c. Pulmonary valve
    d. Mitral valve
17. Normal child birth is an example
    a. Neutral feedback mechanism
    b. Negative feedback mechanism
    c. Positive feedback mechanism
    d. Homeostatic imbalance

18. High count of lymphocytes may indicate
    a. Bacterial infection
    b. Fungal infection
    c. Viral infection
    d. Parasitic infection
19. This is a primary lymphatic organ
    a. Lymph nodes
    b. Spleen
    c. Lymphatic follicles
    d. Thymus

20. Fenestrated capillaries are located in
    a. Kidneys
    b. Liver
    c. Lungs
    d. Spleen

Long answers 2Q x 10 M = 20 marks

1. With a schematic representation, explain the process of absorption of various digested nutrients in the small intestine. What is lactose intolerance?
2. Describe different transportation mechanisms across the plasma membrane with example

Short answers 7Q x 5M = 35 marks

1. Describe the structural and functional classification of joints
2. Explain the process of haemopoiesis
3. Discuss the clinical significance of ECG
4. Write in detail about hormonal regulation of blood pressure
5. Explain the accessory structures of skin
6. Describe the formation and flow of lymph. Elaborate its functions
7. Discuss the functions of liver