Question Paper

Exam Date & Time: 23-Nov-2023 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Human Anatomy and Physiology-I [PHA-BP101T - S2]

Marks: 75 **Duration: 180 mins.**

I Multiple Choice Questions (MCQs)

Answer all the questions. Section Duration: 30 mins

1) Choose the component of lymphatic system (1)

- Thymus
- Bile duct
- Larynx
- Pharynx

2) The lipids that contain steroid ring in them are (1)

- Phospholipids
- Cholesterol
- Sphingolipids
- Glycolipids

3) A small, uncharged, and polar molecule like urea, is transported across the plasma membrane by (1)

- Facilitated diffusion
- Simple diffusion
- Secondary active transport
- Primary active transport

4) Transport mediated through Na+ - K+ ATPase protein is (1)

- Facilitated diffusion through ion channel
- Primary active transport
- Secondary active transport
- Receptor mediated endocytosis

5) In a suspected case of thyroid cancer, the most appropriate medical test to diagnosis is. (1)

- Blood test
- Blood pressure
- Biopsy
- Iron content

6) Rigor mortis can set in immediately. (1)

- Sleeping at the time of death
- Struggling against drowning
- Myocardial infarction
- Cold temperature at the time of death

7) Calmodulin and myosin light chain kinase are the regulatory protein in (1)

- Skeletal muscle
- Diaphragm
- Cardiac muscle
- Smooth muscle

8) As ATP binds to the ATP-binding site on the myosin head (1)

- Myosin head detaches from actin
- Myosin head attaches to actin
- Myosin head attaches to actin to form cross-bridges
- Myosin cross-bridges rotate toward the center of sarcomere.

9) A thin membrane that lines the internal bone surface facing the medullary cavity. (1)

- Diaphysis
- Epiphyses
- Periosteum
- Endosteum

10) A couple already has a child, in second pregnancy what are the chances of erythroblastosis fetalis, if father is Rh negative and mother is Rh positive. (1)

- 100%
- 50%
- 0%
- 10%

11) WBC with bilobed nucleus and red-orange granules (1)

- Monocyte
- Eosinophil
- Lymphocyte
- Basophil

12) Which blood cell can release heparin, histamine, and serotonin, at sites of inflammation? (1)

- Eosinophil
- Monocyte
- Neutrophil
- Basophil

13) Most of the plasma proteins are synthesized by (1)

- Redbone marrow
- Yellow bone marrow
- Hepatocytes
- Nephron

14) In Platelet adhesion (1)

- Glycoprotein receptor GPIb binds with Von Willebrand Factor
- TXA2 and ADP turn on nearby platelets
- Release of ADP makes the platelets in the area sticky
- GPIb stimulation activates phospholipase C converts arachidonic acid to TXA2

15) Which arteries are known as conducting arteries? (1)

Muscular arteries
Elastic arteries
Arterioles
Capillaries

16) Internal elastic lamina is a component of (1)

Tunica interna
Tunica media
Tunica adventitia
Tunica externa

17) Which among the following is responsible for fast depolarization of ventricular myocytes? (1)

Na+ influx
Ca++ influx
K+ influx
K+ efflux

18) Blood passes from the left atrium into the left ventricle through (1)

Tricuspid valve
Bicuspid valve
Aortic valve
Pulmonary valve

19) Which among the following is NOT an exocrine cell? (1)

Mucous cells
Parietal cells
G Cells
Chief cells

20) Identify the protein digesting enzyme from the following (1)

α-dextrinase
Maltase
Pancreatic lipase
Chymotrypsin

II Long Answers

Answer all the questions.

1) Explain the recycling of hemoglobin components. Describe extrinsic and intrinsic pathway of blood clotting. (10)

2) Name and list the secretions of the gastric glandular cells. Explain how HCl is produced in the stomach? (10)

III Short Answers

Answer all the questions.

1) Explain the different active transport mechanisms of substances across the plasma membrane. (5)

2) Explain the composition of the extracellular matrix of the connective tissues. (5)

3) Discuss the histology of bone tissue. (5)

4) Compare and contrast skeletal, cardiac and smooth muscles. (5)

5) Explain briefly, the conduction system of the heart. (5)

6)	Explain the microcirculatory system of the human body.	(5)
7)	Discuss the phases of digestion.	(5)

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