

Exam Date & Time: 01-Dec-2018 (09:30 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

BPharm Semester 1- End Semester Examination 2018
 PHA BP-101T, Human Anatomy and Physiology
 Date: 01-12-2018

Human Anatomy and Physiology-I [PHA-BP101T]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Fluid that fills the narrow spaces between cells of tissues is
 1) intracellular fluid 2) interstitial fluid 3) extracellular fluid 4) tissue fluid (1)
- 2) Transport process involved for neurotransmitters is
 1) endocytosis 2) pinocytosis 3) exocytosis 4) transecytosis (1)
- 3) A loose connective tissue specialized for triglyceride storage
 1) areolar 2) reticular 3) adipose 4) mesenchyme (1)
- 4) Which epidermal strata is present only in skin of finger tips?
 1) Stratum basale 2) Stratum spinosum 3) Stratum corneum 4) Stratum lucidum (1)
- 5) This bone cell has a ruffled border
 1) osteoclast 2) osteoblast 3) osteocyte 4) osteogenic (1)
- 6) One of the following is a multiaxial diarthrosis joint
 1) condyloid 2) ball-and-socket 3) pivot 4) hinge (1)
- 7) It is a unique feature of cardiac muscle fibre
 1) Z discs 2) intercalated disc 3) dense bodies 4) dark bands (1)
- 8) This hemopoietic growth factor stimulates formation of platelets
 1) erythropoietin 2) cytokine 3) thrombopoietin 4) interleukin (1)
- 9) Which is the largest single mass of lymphatic tissue in the body?
 1) spleen 2) thymus 3) lymph node 4) red bone marrow (1)
- 10) Right atrium
 1) collects oxygenated 2) collects deoxygenated 3) pumps deoxygenated 4) pumps oxygenated (1)

- | | blood from
the
pulmonary
circulation | blood from
the systemic
circulation | blood to the
lungs for
oxygenation | blood to
body,
except
lungs | |
|-----|---|---|--|--------------------------------------|-----|
| 11) | An important blood vessel that facilitates exchange of nutrients and wastes between blood and tissue cells | | | | (1) |
| | 1) veins | 2) arterioles | 3) capillaries | 4) arteries | |
| 12) | This part of digestive system is responsible for churning, peristalsis and chemical digestion with pepsin | | | | (1) |
| | 1) small intestine | 2) stomach | 3) esophagus | 4) pancreas | |
| 13) | Stellate reticuloendothelial cells of the liver | | | | (1) |
| | 1) Parietal cells | 2) Paneth cells | 3) Chief cells | 4) Kupffer cells | |
| 14) | Aceto-acetic acid, beta hydroxyl butyric acid and acetone produced in liver are collectively called as | | | | (1) |
| | 1) Golgi bodies | 2) Lewy bodies | 3) Ketone bodies | 4) Nissl bodies | |
| 15) | One of the following is not a function of integral protein | | | | (1) |
| | 1) exocytosis | 2) receptor | 3) channel | 4) transporter | |
| 16) | Which vitamin is required for synthesis of haemoglobin? | | | | (1) |
| | 1) vitamin K | 2) Vitamin B ₁₂ | 3) vitamin D | 4) vitamin C | |
| 17) | Volume of blood ejected from the left or right ventricle into the aorta or pulmonary trunk each minute is the | | | | (1) |
| | 1) end-diastolic volume | 2) cardiac output | 3) stroke volume | 4) venous return | |
| 18) | The last stage of digestion occurs through the activity of | | | | (1) |
| | 1) segmentation | 2) churning | 3) haustra | 4) migrating motility complex | |
| 19) | One among the following is a key structural muscle protein | | | | (1) |
| | 1) myosin | 2) troponin | 3) actin | 4) dystrophin | |
| 20) | This is a single layer of cells that functions in diffusion | | | | (1) |
| | 1) stratified epithelium | 2) simple epithelium | 3) pseudostratified epithelium | 4) stratified squamous epithelium | |

II Long Answers

Answer all the questions.

- 1) With a neat, labelled diagram, explain the events of excitation-contraction coupling in a skeletal muscle fibre [3+7] (10)

Explain the physiology of secretion of hydrochloric acid in the stomach with a neat diagram. Describe the mechanical and chemical digestive processes in stomach [6+4] (10)

III Short Answers

Answer all the questions.

- 1) Describe the components of connective tissue matrix. Name two classes of connective tissue citing an example each [3+2] (5)
- 2) With a schematic representation, explain erythropoiesis. Discuss the negative feedback mechanism for its regulation [3+2] (5)
- 3) Draw a neat, labelled diagram of a cell. List any five cell organelles. Give their functions [5] (5)
- 4) Explain the clinical significance of electrocardiogram (5)
- 5) List the accessory structures of skin. Enumerate skin glands and explain their function [1+4] (5)
- 6) Describe the hormonal regulation of blood pressure (5)
- 7) Explain the formation and flow of lymph. Give the functions of lymphatic system [3.5+1.5] (5)

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