

2023

Seat Number

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CJ-49

BP-101T

Human Anatomy and Physiology-I  
(711101)

Total Pages : 7]

Time : 3 Hours

Max. Marks : 75

Note : (1) Do not write anything on question paper except Seat No.

(2) Students should note, no supplement will be provided.

(3) Figures to the right indicate full marks.

(4) Draw figures only with black ink pen or black HB pencil.

1. Attempt *all* questions :

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(1) The hormone erythropoietin stimulates RBCs in the red bone marrow.  
Where in the body is erythropoietin produced ?

(a) Liver

(b) Adrenal gland

(c) Kidney

(d) Thymus gland

(2) Platelets are formed from which type of cells ?

(a) Astrocytes

(b) Megakaryocytes

(c) Melanocytes

(d) Macrophages

P.T.O.

(3) The process of blood coagulation is classically divided into how many pathways ?

- (a) 2
- (b) 5
- (c) 4
- (d) 3

(4) Which is the correct sequence of epidermal layers of thick skin, from deep to superficial ?

- (a) Stratum corneum, Stratum lucidum, Stratum spongiosum, Stratum granulosum, Stratum basale
- (b) Stratum basale, Stratum spongiosum, Stratum granulosum, Stratum lucidum, Stratum corneum
- (c) Stratum granulosum, Stratum corneum, Stratum lucidum, Stratum spongiosum, Stratum basale
- (d) Stratum spongiosum, Stratum lucidum, Stratum corneum, Stratum basale, Stratum granulosum

(5) The organic component of bone matrix is produced by :

- (a) Chondroblast
- (b) Chondrocytes
- (c) Osteoblast
- (d) Osteoclasts

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(6) Which dietary component is needed for the synthesis of DNA and influences the production of RBCs ?

- (a) Folic acid
- (b) Iron
- (c) Vitamin-A
- (d) Calcium

(7) An individual's ABO blood type is normally determined by :

- (a) Genetic inheritance and environmental factors
- (b) The inheritance of 1 of 3 possible alleles (A, B or O) from each parent
- (c) Environmental factors
- (d) RH factors

(8) The vagus nerve regulates major elements of which part of nervous system ?

- (a) Parasympathetic nervous system
- (b) Enteric nervous system
- (c) Sympathetic nervous system
- (d) Central nervous system

(9) Which is the rarest blood group ?

- (a) AB negative
- (b) AB positive
- (c) O negative
- (d) O positive

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P.T.O.

(10) The action of sympathetic nervous system tends to the 'fight and flight' response. Which of these is *not* part of that process ?

- (a) Vasodilation in skeletal muscle
- (b) Sweating
- (c) Increased respiration
- (d) Increased gut motility

(11) The connective tissue that connects muscle to bone is called :

- (a) Ligament
- (b) Tendon
- (c) Nervous tissue
- (d) Microtubule

(12) The tissue present in the lining of kidney tubules and ducts of salivary glands is :

- (a) Squamous epithelium
- (b) Glandular epithelium
- (c) Cuboidal epithelium
- (d) Columnar epithelium

(13) The largest artery in the body is :

- (a) Carotid
- (b) Aorta
- (c) Jugular
- (d) Subclavian

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(14) Outermost part of skin that is waterproof is known as :

- (a) Dermis
- (b) Receptor
- (c) Sensory
- (d) Epidermis

(15) Inner ear is made-up of semicircular canal in :

- (a) Cochlea
- (b) Anvil
- (c) Hammer
- (d) Icicles

(16) Name an organelle which serves as primary packaging area for molecules that will be distributed throughout the cell :

- (a) Mitochondria
- (b) Plastids
- (c) Golgi apparatus
- (d) Vacuole

(17) Veins carry deoxygenated blood *except* :

- (a) Femoral vein
- (b) Pulmonary vein
- (c) Jugular vein
- (d) Carotid vein

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P.T.O.

(18) Name outermost boundary of cell :

- (a) Plasma membrane  
(b) Cytoplasm  
(c) Nuclear membrane  
(d) None of the above

(19) Which is the largest bone of human body ?

- (a) Femur
- (b) Humerus
- (c) Radius
- (d) Ulna

(20) Name the process in which the passage of water goes from the region of higher concentration to a region of lower concentration through a semi-permeable membrane :

- (a) Diffusion  
(b) Osmosis  
(c) Both (a) and (b)  
(d) Neither (a) nor (b)

2. Solve any two :

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- (a) Describe in detail the sequence of events taking place in cardiac cycle. Write a short note on ECG.
- (b) Enlist bones of appendicular skeleton system. Draw and explain the pectoral girdle.
- (c) Describe the composition and functions of blood.

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3. Solve any *seven* questions :

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- (a) Explain neurohumoral factors responsible for regulation of blood pressure.
- (b) Classify tissue. Explain the anatomy of connective tissues.
- (c) Give the difference between sympathetic and parasympathetic nervous system.
- (d) Draw and explain the anatomy of human ear.
- (e) Explain the transport across the cell membrane.
- (f) Explain the mechanism of blood coagulation.
- (g) Define neuromuscular junction and explain the physiology of muscle contraction.
- (h) Give the composition and formation of lymph. Give the functions of lymphatic system.
- (i) Classify joints and explain synovial joints.

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