

Exam Date & Time: 25-Apr-2022 (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) Non Ciliated simple columnar epithelium is present in

(1)

1) Fallopian tube	2) GIT	3) Trachea	4) Lungs
-------------------	--------	------------	----------

2) An abnormal thickening of this layer of epidermis leads to callus

1) Stratum corneum	2) Stratum granulosum	3) Stratum lucidum	4) Stratum spinosum
--------------------	-----------------------	--------------------	---------------------

(1)

3) High count of lymphocytes may indicate

1) Bacterial infection	2) Fungal infection	3) Viral infection	4) Parasitic infection
------------------------	---------------------	--------------------	------------------------

(1)

4) Normal child birth is an example of

1) Neutral feedback mechanism	2) Negative feedback mechanism	3) Positive feedback mechanism	4) Homeostatic imbalance
-------------------------------	--------------------------------	--------------------------------	--------------------------

(1)

5) This is the only digestive organ that is attached to the anterior abdominal wall

(1)

1) Liver	2) Pancreas	3) Stomach	4) Esophagus
----------	-------------	------------	--------------

6) This is the long bone's shaft

(1)

1) Epiphysis	2) Diaphysis	3) Metaphysis	4) Periphysis
--------------	--------------	---------------	---------------

7) The deepest layer of the epidermis

(1)

1) Stratum	2) Stratum	3) Stratum	4) Stratum
------------	------------	------------	------------

granulosum	spinosum	basale	corneum
------------	----------	--------	---------

- 8) One of the following does not cause a rise in heart rate (1)
- |  |                                      |                                |                                  |
|--|--------------------------------------|--------------------------------|----------------------------------|
| 1) Increased parasympathetic stimulation | 2) Increased sympathetic stimulation | 3) Catecholamines in the blood | 4) Thyroid hormones in the blood |
|--|--------------------------------------|--------------------------------|----------------------------------|
- 9) Blood passes from the left atrium into the left ventricle through (1)
- |                    |                 |                    |                 |
|--------------------|-----------------|--------------------|-----------------|
| 1) Tricuspid valve | 2) Aortic valve | 3) Pulmonary valve | 4) Mitral valve |
|--------------------|-----------------|--------------------|-----------------|
- 10) For the diagnosis of cancer in thyroid tissue it will be appropriate to perform (1)
- |               |           |                               |                  |
|---------------|-----------|-------------------------------|------------------|
| 1) Blood test | 2) Biopsy | 3) Blood pressure measurement | 4) Iron analysis |
|---------------|-----------|-------------------------------|------------------|
- 11) This is an example of saddle joint (1)
- |                |                    |                    |                |
|----------------|--------------------|--------------------|----------------|
| 1) Intercarpal | 2) Interphalangeal | 3) Carpometacarpal | 4) Radiocarpal |
|----------------|--------------------|--------------------|----------------|
- 12) Ability of the muscle to stretch without being damaged is (1)
- |                  |                  |                 |               |
|------------------|------------------|-----------------|---------------|
| 1) Contractility | 2) Extensibility | 3) Excitability | 4) Elasticity |
|------------------|------------------|-----------------|---------------|
- 13) A small part of antigen that initiates immune response is (1)
- |           |            |                 |                 |
|-----------|------------|-----------------|-----------------|
| 1) Hapten | 2) Epitope | 3) Self-antigen | 4) MHC- antigen |
|-----------|------------|-----------------|-----------------|
- 14) Vascular resistance is not dependent on (1)
- |                     |                                   |                              |                       |
|---------------------|-----------------------------------|------------------------------|-----------------------|
| 1) Circulation time | 2) Size of the blood vessel lumen | 3) Total blood vessel length | 4) Viscosity of blood |
|---------------------|-----------------------------------|------------------------------|-----------------------|
- 15) This class of immunoglobulins (Ig) operates during incompatible blood transfusion (1)
- |        |        |        |        |
|--------|--------|--------|--------|
| 1) IgE | 2) IgM | 3) IgA | 4) IgD |
|--------|--------|--------|--------|
- 16) Velocity of the blood flow is slowest in (1)
- |                |             |            |               |
|----------------|-------------|------------|---------------|
| 1) Capillaries | 2) Arteries | 3) Venules | 4) Arterioles |
|----------------|-------------|------------|---------------|
- 17) Cell that causes cellular destruction by releasing perforin (1)
- |           |           |                        |              |
|-----------|-----------|------------------------|--------------|
| 1) B cell | 2) T cell | 3) Natural killer cell | 4) CD4+ cell |
|-----------|-----------|------------------------|--------------|
- 18) Which hormone lowers the blood pressure? (1)
- |                         |                               |                |                |
|-------------------------|-------------------------------|----------------|----------------|
| 1) Antidiuretic hormone | 2) Atrial natriuretic peptide | 3) Angiotensin | 4) Aldosterone |
|-------------------------|-------------------------------|----------------|----------------|
- 19) Clotting in an unbroken blood vessel is known as (1)
- |               |                    |             |                  |
|---------------|--------------------|-------------|------------------|
| 1) Thrombosis | 2) Clot retraction | 3) Embolism | 4) Agglutination |
|---------------|--------------------|-------------|------------------|
- 20) Which cells secrete pepsinogen? (1)
- |                   |            |                |                         |
|-------------------|------------|----------------|-------------------------|
| 1) Parietal cells | 2) G cells | 3) Chief cells | 4) Surface mucous cells |
|-------------------|------------|----------------|-------------------------|

## II Long Answers

Answer all the questions.

- 1) With a neat labelled diagram of heart, describe its conduction system. When is an artificial pacemaker needed? What triggers ectopic activity? (10)
- 2) Summarize the events of contraction and relaxation in a skeletal muscle fibre (10)

### III Short Answers

**Answer all the questions.**

- 1) Explain functions of integral proteins with examples (5)
- 2) Describe the extrinsic and intrinsic pathways of blood coagulation (5)
- 3) Discuss the process of deglutition. Give the clinical significance of GERD (5)
- 4) Outline the mechanical and chemical digestive processes in the stomach (5)
- 5) Describe the neural regulation of blood pressure (5)
- 6) Discuss the process of phagocytosis as a vital defense mechanism that helps protect the body from disease (5)
- 7) Explain the chemical digestion occurring via pancreas. What is emulsification? (5)

-----End-----

