

# Question Paper

Exam Date & Time: 11-May-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Human Anatomy and Physiology [PHA-ER20-14T-S3]

Marks: 80

Duration: 180 mins.

### MCQs

Answer all the questions.

Section Duration: 30 mins

20 Q x 1 mark = 20 marks

- 1) Left atrium receives blood from (1)
- [Superior Venacava](#)
  - [Coronary sinus](#)
  - [Inferior Venacava](#)
  - [Pulmonary veins](#)
- 2) These waves disappear entirely during sleep in an electroencephalogram of adult human (1)
- [alpha](#)
  - [beta](#)
  - [theta](#)
  - [delta](#)
- 3) The inferior region of the stomach that connects to the duodenum is the (1)
- [cardia](#)
  - [fundus](#)
  - [pylorus](#)
  - [body](#)
- 4) Which of the following is NOT a component of feedback system (1)
- [Receptors](#)
  - [Control centre](#)
  - [Effectors](#)
  - [Linkers](#)
- 5) Which of the following solution is used in treating cerebral edema (1)
- [Mannitol](#)
  - [Glycerol](#)
  - [Glucose](#)
  - [Sucrose](#)
- 6) Main function of glandular epithelium is (1)
- [Protection](#)
  - [Secretion](#)

[Activation](#)

[Absorption](#)

7) Which of the following is a major reservoir for calcium (1)

[Liver](#)

[Spleen](#)

[Bone](#)

[Teeth](#)

8) Humerus is a part of (1)

[Appendicular skeleton](#)

[Axial skeleton](#)

[Synovial joint](#)

[Axial joint](#)

9) Sutures are a type of (1)

[Fibrous joint](#)

[Synovial joint](#)

[Cartilaginous joint](#)

[Tissue](#)

10) Which of the following helps in digestion and removal of wastes from cell? (1)

[Ribosomes](#)

[Peroxisomes](#)

[Lysosomes](#)

[Endosomes](#)

11) Phagocytosis is exhibited by (1)

[All cells](#)

[Macrophages](#)

[Natural killer cells](#)

[Lymphocytes](#)

12) Which of following gases is involved in decompression sickness (1)

[Oxygen](#)

[Nitrogen](#)

[Carbon dioxide](#)

[Hydrogen](#)

13) Molecule with high affinity to oxygen specific to muscle is (1)

[Hemoglobin](#)

[Cytoglobin](#)

[Myoglobin](#)

[Neuroglobin](#)

14) One of the following is NOT an energy source for muscle (1)

[Creatinine Phosphate](#)

[Aerobic glycolysis](#)

[Anaerobic glycolysis](#)

[S-adenosylmethionine](#)

15) Which is the outermost layer of skin (1)

- [Stratum basale](#)  
[Stratum spinosum](#)  
[Stratum lucidum](#)  
[Stratum corneum](#)
- 16) Taste bud comprises of (1)
- [Gustatory receptors](#)  
[Basal cells](#)  
[Supporting cells](#)  
[All of the above](#)
- 17) Spermeation means (1)
- [Maturation of spermatids into spermatozoa](#)  
[Production of sperm](#)  
[Maturation of sperm](#)  
[Primary spermatocyte formation](#)
- 18) Which is the site of implantation of fertilised ovum (1)
- [Ovary](#)  
[Uterus](#)  
[Fetus](#)  
[Graafian follicle](#)
- 19) Which hormone is responsible for parturition (1)
- [Estrogen](#)  
[Progesterone](#)  
[Oxytocin](#)  
[Relaxin](#)
- 20) Which of the following is anti-stress mediator (1)
- [Glucocorticoids](#)  
[Mineralocorticoids](#)  
[Sex hormones](#)  
[All of the above](#)

### Long Answers

**Answer all the questions.**

6 Q x 5 marks = 30 marks

- 21) Explain conduction system of heart (5)
- 22) Describe the physiological effects of parasympathetic nervous system (5)
- 23) Draw a neat, labelled diagram of structures of the mouth (5)
- 24) Write a brief note on the mechanisms involved in hemostasis. (5)
- 25) Give a short note on the physiology of vision (5)
- 26) What are the functions of the pituitary gland (5)

### Short Answers

**Answer all the questions.**

10 Q x 3 mark = 30 marks

- 27) Describe the location and layers of heart (3)
- 28) Draw a neat, labelled sketch of external anatomy of spinal cord (3)
- 29) Explain the process of deglutition (3)
- 30) Write a note on the posterior pituitary hormones (3)
- 31) What are the various types of white blood cells and state one function each? (3)
- 32) List the functions of lymph (3)
- 33) What is the role of bone in calcium homeostasis? (3)
- 34) What are the blood tests performed to assess kidney function? (3)
- 35) Describe spermatogenesis and oogenesis? (3)
- 36) What is the role of respiratory regulatory centre? (3)

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