

# Question Paper

Exam Date & Time: 13-Jun-2018 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES  
END SEMESTER THEORY EXAMINATIONS - JUNE 2018

PROGRAM: BPHARM SEMESTER 2

DATE: 13/06/2018

TIME: 10:00 AM - 1:00 PM

Human Anatomy and Physiology-II [PHA-BP201T]

Marks: 75

Duration: 180 mins.

## I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) Voltage gated sodium channels are located maximally in which of the following part of a nerve (1)  
[Dendrites](#) [Axon Hillock](#) [Synaptic end bulb](#) [Neurilemma cell](#)
- 2) Serotonin is (1)  
[A neurotransmitter](#) [Regulating GI movements](#) [A platelet activator](#) [Any of the three](#)
- 3) Reticular Activating system (RAS) in brain functions for (1)  
[Consciousness](#) [Emotions](#) [Autonomic centres](#) [Motor centres](#)
- 4) Which of the following cranial nerve helps in accommodating eye for near vision (1)  
[Oculomotor](#) [Optic](#) [Trochlear](#) [Facial](#)
- 5) Alzheimer's disease is mainly because of the neurodegeneration in the following part of brain (1)  
[Hypothalamus](#) [Midbrain](#) [Hippocampus](#) [Cerebellum](#)
- 6) Following is the endocrine function of Liver (1)  
[Adrenalin](#) [Noradrenalin](#) [Erythropoietin](#) [Thrombopoietin](#)
- 7) Which of the following is synthesised and released by hypothalamus (1)  
[Gonadotropin-inhibiting hormone](#) [Growth hormone-inhibiting hormone](#) [Oxytocin](#) [Gonadotropin-inhibiting hormone in male](#)
- 8) One of the following glucose transporter is abundant on proximal convoluted tubules (1)  
[SGLT-2](#) [SGLT-12](#) [GLUT-4](#) [GLUT-14](#)
- 9) Vital capacity will not change in one of the following conditions (1)  
[Chronic Cigarette smoking](#) [Alcohol abusing](#) [COPD](#) [Arthritis](#)
- 10) Normal breathing rate for adult human is (1)  
[35 breaths](#) [72 breaths](#) [12 breaths](#) [Maximum 100 breaths](#)
- 11) The following muscle in eye holds and changes the shape of the lens (1)  
[Papillary muscle](#) [Ciliary muscle](#) [Inferior oblique muscle](#) [Orbicular oculi muscle](#)
- 12) Stapedius muscle in the middle ear is innervated by (1)  
[Facial Nerve \(VII\)](#) [Vestibulocochlear nerve \(VIII\)](#) [Glossopharyngeal nerve \(IX\)](#) [Vagus Nerve \(X\)](#)
- 13) Which of the following is responsible for the static and dynamic equilibrium of the body, especially head (1)  
[Choclea](#) [Troclea](#) [Trachea](#) [Vestibular apparatus](#)
- 14) Which of the following is correct in olfactory transduction (1)  
[Odorant molecule → G-protein couple receptors → cAMP → Sodium influx → Action potential](#) [Odorant molecule → Kinase receptors → ATP → Action potential](#) [Odorant molecule → Nerve terminals → denaturation of protein → Action potential](#) [Odorant molecule → Ion channels → Sodium influx → Action potential](#)
- 15) Gustation is (1)  
[Sense of taste](#) [Gastric reflex](#) [Gesture of a person](#) [Breathing reflex](#)
- 16) Which if the following taste buds are not functional in adult human being (1)  
[vallate papillae](#) [Fungiform papillae](#) [Foliate papillae](#) [Circumvallate papillae](#)
- 17) The phenomenon of nitrogen narcosis explained by (1)  
[Henry's law](#) [Boy's law](#) [Boyle's law](#) [Dalton's law](#)
- 18) Fertilisation happens when (1)  
[Sperms reach the ovum within fraction of minutes](#) [Capacitated sperms reach the ovum](#) [Sperms with tail moving steadily reaches the ovum](#) [X and Y pairs of sperms reach the ovum](#)

- 19) hCG concentration in blood (1)  
[Very high in female](#)   [Increases in infancy](#)   [decreases in pregnancy](#)   [None of the above](#)
- 20) Which of the following is correct for Luteinising Hormone (LH) (1)  
[Stimulates Sertoli cells to produce testosterone](#)   [Stimulates follicles in Ovary to proliferate](#)   [Stimulate spermatogonia in seminiferous tubules](#)   [None of the above](#)

## II Long Answers

### Answer all the questions.

- 1) Discuss the anatomical and physiological differentiate between somatic, sympathetic and parasympathetic nervous system. Describe the innervations of lungs and adrenal glands. (8+2) (10)
- 2) Discuss the role of hormones in regulation of calcium, sodium and potassium homeostasis in blood (8+1+1) (10)

## III Short Answers

### Answer all the questions.

- 1) Describe the synaptic transmission (5)
- 2) Discuss the formation and circulation of CSF. (5)
- 3) Discuss the factors regulating pulmonary ventilation. (5)
- 4) Discuss any five functions of kidney. (5)
- 5) Draw a labelled diagram of image formation and visual pathway. (1+4) (5)
- 6) Discuss the synthesis and release of thyroid hormones (5)
- 7) Describe the hormonal regulation of changes in the ovary and uterus during the menstrual cycles (5)

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