



MQ-7792

Seat No. _____

First Year B. P. T. Examination

January – 2018

Human Physiology

Time : **3 Hours**]

[Total Marks : **100**

- Instructions :** (1) Write answers of each section in separate answer books.
(2) Draw necessary diagrams.
(3) Illegible writing will not fetch any marks
(4) Figures to the right indicates marks of that question.

SECTION – I

- 1** Discuss on any **two** : **20**
(1) Define Erythropoiesis. Describe stages and factors require for erythropoiesis.
(2) Describe different transport mechanisms across cell membrane.
(3) Describe nervous regulation of respiration in detail.
- 2** Write briefly on any two : **10**
(1) Juxtaglomerulus apparatus
(2) Deglutition
(3) Hypoxia.
- 3** Write in short on any **five** : **10**
(1) What is Anemia?
(2) What is cyanosis?
(3) Define cardiac output and cardiac index.
(4) What is Haemophilia? Write type and cause of haemophilia.
(5) What is pacemaker of heart? And why?
(6) What is Dysbarism?
- 4** Give answers of following MCQs from given options : **10**
(1) Which of following is known as "power house" of cell?
(A) Nucleus (B) Nucleolus
(C) Golgi apparatus (D) Mitochondria

- (2) Normal value of RBC count is:
 (A) 4-5 millions/cumm (B) 1-4 lacs/cumm
 (C) 4000-11000 (D) 8-9 millions/cumm
- (3) Life span of RBC is
 (A) 120 days (B) 90 days
 (C) 60 days (D) 30 days
- (4) Gap Junctions are present in one of the following tissues:
 (A) Skeletal muscle (B) Neurons
 (C) Cardiac muscle (D) Epithelial tissue
- (5) Ventricular depolarization in ECG is seen as :
 (A) P-wave (B) QRS complex
 (C) T-wave (D) ST segment
- (6) Adult haemoglobin has:
 (A) 2 alpha and 2 delta chains
 (B) 2 alpha and 2 beta chains
 (C) 4 alpha chains
 (D) 2 alpha chains
- (7) The lung volume which cannot be measured by using spirometer is:
 (A) Residual volume
 (B) vital capacity
 (C) Inspiratory reserve volume
 (D) Tidal volume
- (8) CO₂ is carried in venous blood mostly in the form of
 (A) carbonic acid (B) Bicarbonate
 (C) Dissolved CO₂ (D) Carbamino Hb
- (9) In a healthy adult male, the diastolic blood pressure is
 (A) 120 mmHg (B) 100 mmHg
 (C) 90 mmHg (D) 80 mmHg
- (10) Intrinsic factor is secreted in:
 (A) Intestine (B) Pancreas
 (C) Stomach (D) Liver

SECTION – II

- 5** Discuss on any **two** : **20**
- (1) What is Neuromuscular junction? Describe transmission through neuromuscular junction in detail.
 - (2) Enumerate anterior pituitary hormones and write note on growth hormone in detail.
 - (3) Describe functions of hypothalamus.
- 6** Write briefly on any **two** : **10**
- (1) Errors of refraction
 - (2) Insulin.
 - (3) Corticospinal tract.
- 7** Write in short on any **five** : **10**
- (1) What is sarcomere?
 - (2) What is rigor mortis?
 - (3) What is milk ejection reflex?
 - (4) Name the different part of adrenal gland and the hormones secreted by them.
 - (5) What is Light reflex?
 - (6) Name the neurotransmitter secreted from post ganglionic sympathetic and parasympathetic nerve fibers.
- 8** Give answers of following MCQs from given options : **10**
- (1) Foot plate of stapes rests in:
 - (A) Round window
 - (B) Oval window
 - (C) Tympanic membrane
 - (D) Basilar membrane
 - (2) Testosterone is secreted by
 - (A) Sertoli cells
 - (B) Leydig cell
 - (C) Epididymis
 - (D) Seminiferous tubules
 - (3) Which of the following eye structure having highest refractive index?
 - (A) Cornea
 - (B) Lens
 - (C) Aqueous humour
 - (D) Vitreous humour

- (4) The Supraoptic nucleus of hypothalamus controls the secretion of
- (A) Prolactin (B) FSH
(C) Vasopressin (D) TSH
- (5) Troponin C binds with:
- (A) Actin (B) ATP
(C) Tropomyosin (D) Calcium
- (6) Enzyme involved in acetylcholine synthesis is :
- (A) Choline acetyl transferase
(B) Choline esterase
(C) Pseudocholinesterase
(D) Glycine
- (7) Nucleus Gracilis and Nucleus Cuneatus are the first synapse for:
- (A) Dorsal column tract
(B) Dorsolateral tract
(C) Lateral spinothalamic tract
(D) ventral spinothalamic tract
- (8) Protonopia means:
- (A) Person cannot see green
(B) cannot see blue
(C) Cannot see red
(D) No color sense
- (9) Organ of Corti is found in
- (A) External ear (B) Middle ear
(C) Utricles (D) Cochlea
- (10) The part of sarcomere that disappears on muscle contraction
- (A) M line (B) H zone
(C) I band (D) A band
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