



DAF-M-20174-N

Seat No. _____

First Year M. B. B. S. Examination

April - 2022

Physiology : Paper - II

Time : 3 Hours]

[Total Marks : 100

- Instructions :** (1) Write answers to each section in separate answer book.
(2) Draw diagrams where necessary.

SECTION - I

1. Define and classify receptors. Describe in detail about receptor potential and properties of receptor. **12**

OR

Describe connections, functions and abnormalities of cerebellum.

- 2 Short notes. Write any three out of four : **12**

- (a) Organ of Corti
- (b) Errors of refraction
- (c) Secondary active transport
- (d) Excitation contraction coupling of smooth muscle.

- 3 (a) Describe the physiology of speech and speech disorders. **6**

- (b) Explain in few sentences:(Five questions - **10**

All are compulsory)

(i) Lesions in spinal cord produces dissociative anaesthesia.

(ii) Sodium potassium pump controls the volume of the cell.

(iii) Rigidity of muscles is seen in upper motor neuron lesion.

(iv) What is scotopic and photopic vision.

(v) Muscle spindles help to maintain muscle tone.

4 MCQ - Select one correct answer. All are compulsory 10

- (1) The major afferent input to basal ganglia is from :
(A) Motor cortex (B) Cerebellum
(C) Association cortex (D) Thalamus
- (2) Bitter taste is felt at the following part of the tongue :
(A) Tip (B) Mid dorsal
(C) Back (D) Sides
- (3) Ryanodine receptor controls uptake of :
(A) Calcium by sarcoplasmic reticulum
(B) Potassium by sarcoplasmic reticulum
(C) Sodium by mitochondria
(D) Magnesium by nucleus
- (4) Development of myelin sheath in peripheral nervous system depends on :
(A) Oligodendrocytes (B) Astrocytes
(C) Schwann cell (D) Microglia
- (5) Which of the following is not transmitted in dorsal column :
(A) Vibration sense (B) Position sense
(C) Fine touch (D) Itch sensation
- (6) Which muscles have high density of muscle spindles:
(A) Flexor muscles (B) Extensor muscles
(C) Agonist muscle (D) Antigravity muscles
- (7) Which of the following is not extrapyramidal tract:
(A) Rubrospinal tract
(B) Tectospinal tract
(C) Corticospinal tract
(D) Medial longitudinal fasciculus
- (8) Source of generator potential in pacinian corpuscle is :
(A) Receptor capsule
(B) Unmyelinated sensory nerve ending
(C) First node of Ranvier
(D) Second node of Ranvier
- (9) Most of the refraction that occurs in the eye occurs at the :
(A) Anterior surface of cornea
(B) Posterior surface of cornea
(C) Anterior surface of lens
(D) Posterior surface of lens
- (10) Not a function of iris :
(A) Absorbs extra amount of light entering into the eye
(B) Regulates the size of pupil
(C) Nourishes the structures in the eyeball
(D) Increases the depth of focus

SECTION - II

- 5 Describe synthesis , functions and disorders of thyroid hormone. 12

OR

Describe the functions, control and disorders of glucocorticoid hormones.

- 6 Short notes. Write any three out of four : 12
- (a) Puberty
 - (b) Oral contraception
 - (c) Menopause
 - (d) Lactation
- 7 (a) Write in brief about deafness and tests for hearing. 6
- (b) Explain in few sentences : (Five questions - 10
All are compulsory)
- (i) Clinical use of EEG.
 - (ii) Name the hormones secreted by placenta.
 - (iii) Babinski's sign.
 - (iv) Hypocalcaemia leads to tetany.
 - (v) The presence of HCG in urine forms the basis of pregnancy test.
- 8 MCQ - All are compulsory Select one correct answer 10
- (1) Peak secretion of oestrogen occurs :
- (A) At the time of ovulation
 - (B) Just before ovulation
 - (C) Secreted at the same rate during all phases of
 - (D) Mid-luteal phase menstrual cycle
- (2) Capacitance of sperm takes place in :
- (A) Serniniferous tubule
 - (B) Vas deferens
 - (C) Epididymis
 - (D) Uterus
- (3) Blobs of visual cortex are associated with:
- (A) Ocular dominance
 - (B) Colour processing
 - (C) Saccadic eye movement
 - (D) Orientation

- (4) Not an effect of glucagon :
- (A) Hormone of abundance
 - (B) Promotes gluconeogenesis
 - (C) Stimulate glycogenolysis
 - (D) Mobilizer of glucose
- (5) Ovum fertilisation usually occurs in which part of fallopian tube :
- (A) Ampulla
 - (B) Fimbrial end
 - (C) Isthmus
 - (D) Infundibulum
- (6) Which of the following is not associated with Rickets:
- (A) Vitamine D deficiency
 - (B) Solubility product is normal
 - (C) Liver dysfunction
 - (D) Bone deformities in young children
- (7) During aldosterone deficiency there is likely to be a fall in :
- (A) Blood volume
 - (B) Urine volume
 - (C) Plasma potassium level
 - (D) Blood viscosity
- (8) If a person can perceive sound information but fails to understand the meaning of sound, the lesion is most likely in :
- (A) Primary auditory cortex
 - (B) Inferior colliculus
 - (C) VIII nerve
 - (D) Auditory association area
- (9) Not a feature of Sertoli cells :
- (A) Nourish sperms and control their release
 - (B) Secrete inhibit B
 - (C) Provide blood testis barrier
 - (D) Secrete testosterone
- (10) Which one of the following hormones is not required in calcium metabolism :
- (A) Vitamin D
 - (B) Calcitonin
 - (C) Parathyroid hormone
 - (D) Thyroxine