

**SS/MBBS-I/PHY-I/07-21****MBBS 1st Professional Supplementary Exam****2021****(July)****PHYSIOLOGY****Paper-I****Full Marks: 100****Time: 3 hours****The figures in the margin indicate****full marks for the questions****Write the answers to the two Halves in separate books****Answer all questions****FIRST HALF**

1. Draw and label a typical neurovascular junction. Describe the sequence of events occurring at the neurovascular junction. Classify drugs acting at the neurovascular junction with examples. Describe the basis and features of Myasthenia gravis and Lambert-Eaton syndrome. ( 3 + 4 + 4 + 4 = 15)

2. Write short notes on the following : 5×4=20

- (a) Colour blindness
- (b) Acromegaly
- (c) Wallerian degeneration
- (d) Ovulation

3. What are the roles of a physician in the society? 5

4. Choose the correct option from the following : [ 1x10 = 10]

(a) The inhibitory neurotransmitter in CNS neurons is

(i) glutamate

(ii) aspartate

(iii) GABA

(iv) tartrate

(b) The highest refractive index is that of

(i) cornea

(ii) aqueous humor

(iii) lens

(iv) vitreous humor

(c) Calcitonin is secreted by \_\_\_\_\_ gland.

(f) parathyroid

(ii) pancreas

(iii) adrenal

(iv) thyroid

(d) Menopausal hot flushes are due to

(i) decreased estrogen

(ii) decreased progesterone

(iii) LH surge

(iv) FSH surge

(e) Thalamus is not a relay centre for which sensation?

- (i) Smell
- (ii) Proprioception
- (iii) Pain
- (iv) Temperature

(f) Wallerian degeneration refers to

- (i) degenerative and regenerative changes in the cut nerve fibre
- (ii) retrograde degeneration of the axon up to the cell body
- (iii) degenerative changes in the distal part of the cut nerve fibre
- (iv) degenerative changes at the site of injury

(g) The pregnancy test is based on the detection of which hormone?

- (i) Estrogen
- (ii) Progesterone
- (iii) HCG
- (iv) LH

(h) Sarcomere refers to the portion of the myofibril between

- (i) A and H band
- (ii) Z line to A band
- (iii) A and I band
- (iv) two adjacent Z lines

(i) The muscles typically exhibiting isometric contractions, are

- (i) extraocular
- (ii) respiratory

(iii) anti-gravity

(iv) masticatory

(j) Myopia is corrected by

(j) concave lens

(k) convex lens

(l) cylindrical lens

(w) bifocal lens

### SECOND HALF

5. Define menstrual cycle. Name the different phases of menstrual cycle. Explain, with a proper diagram, the hormonal basis of menstrual cycle. What is LH surge? How does LH cause ovulation?  $2+3+6+2+2=15$

6. Write short notes on the following :  $5 \times 3 = 15$

(a) Apoptosis

(b) Astigmatism

(c) Vertigo

7. Compare and contrast the following :  $2 \times 5 = 10$

(a) Isotonic contraction and Isometric contraction

(b) Conductive deafness and Sensorineural deafness

(c) Sensory aphasia and Motor aphasia

(d) Oogenesis and Spermatogenesis

(e) Chemical synapse and Electrical synapse

8. A 42-year female presents with hirsutism, moon face and buffalo hump.

- (a) What may be the probable diagnosis?
- (b) What may be the other signs and symptoms of the disease?
- (c) Describe the pathophysiology of the disease.
- (d) Give an outline for the treatment of the disease. 1+3+4+2=10

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