Madhya Pradesh Medical Science University, Jabalpur

MBBS First Professional Examination Feb-2023

Paper Code- 23AM0000100552

Subject- Physiology (New Scheme)

Paper-II

Time : 3:00 Hours   Maximum Marks :100

Instructions:

a) All questions are compulsory

b) Draw diagrams wherever necessary

c) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.

d) MCQ has to be answered in theory answer book

e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:-1. (a) 2. (b)

f) MCQ has to be answered only once, any kind for repetition or cutting or erasing or whitener will be consider as malpractice. Such answers will not be counted in the marks and action will be taken according to UFM rules of University

g) Subjective Answer should be answered in up to 30 words per marks. For example if a question having 2 marks answer should be answered in up to 60 works.

Q. 1 Total MCQs : 10   **[10X1=10]**

1. Weber Fechner law is related with

  a. Amplitude

  b. Surface Area

  c. Number of sensory Fiber involvement.

  d. Stimulus discrimination

2. The processing of short-term memory to long term memory is done in-

  a. Prefrontal

  b. Hippocampus

  c. Neocortex

d. Nmygdala

3. Wallarian degeneration is seen in-

   a. Proximal cut end of nerve with cell body

   b. Distal cut end of nerve without cell body

   c. Both the free ends of the cut nerve

   d. All are true

4. In normal kidneys, which of the following is true of the osmolarity of renal tubular fluid that flows through the early distal tubule in the region of the macula densa?

   a. Usually isotonic compared with plasma

   b. Usually hypotonic compared with plasma

   c. Usually hypertonic compared with plasma

   d. Hypertonic, compared with plasma, in antidiuresis

5. Which of the following allows smooth muscle to maintain sustain contraction with minimal energy usage

   a. Dense body

   b. Gap junctions

   c. Intermediate filaments

   d. Latch state

6. In muscle contraction all are true except-

   a. A band remains unchanged

   b. H zone disappears.

   c. I band becomes wider

   d. Two Z lines come closer

7. Which sensory receptor is most sensitive to angular acceleration ?

   a. crista

   b. Utricle

   c. Saccule

d. Organ of Corti

8. Broca's area is concerned with

   a. Word Formation

   b. Comprehension

   c. Repetition

   d. Reading

9. Renshaw cell inhibition is an example of

   a. Feedback Facilitation

   b. Feed-Forward inhibition

   c. Feed Forward Facilitation

   d. Feedback inhibition

10. In cerebellar disease, all the statements are correct EXCEPT.

   a. The Romberg's sign is positive

   b. There is adidochokinesia

   c. There is pendular knee jerk

   d. There are involuntary tremors

Q.2 Long Answer Questions   **2X20=40**

a. A 75 years old man was admitted to the hospital with complaints of trembling of hands while holding a cup of tea, difficulty in doing rapid sequential movements and experiences imbalance while walking. On clinical examination, past pointing was observed.

i) Give the clinical diagnosis of above condition.

ii) Explain the overall functions of the part involved.

iii) What more clinical abnormalities would you expect in the above patient?

b. Enumerate layers of Retina. Draw a diagram of visual pathway and explain it. Indicate the effects of lesions at different level of optic pathway.

Q.3 Brief Answer Questions   **6X05=30**

a. Define Receptor. List the properties of Receptor and briefly describe any Two of it.

b. Explain the role of Gamma(γ) motor neuron in the control of muscle tone and activities.

c. Define GFR. Write the factors affecting it.

d. Cardiorespiratory adjustments during exercise in body.

e. Draw the schematic diagram to depict direct and indirect pathways through basal ganglia.

f. Write the content and functions of gastric juice. Discuss the factors regulating the secretion of gastric juice.

Q.4 Short Answer Questions   10X02=20

a. Define Peristalsis

b. What is motor unit

c. Define Sarcomere.

d. Any Two properties of Synapse.

e. Content of pancreatic secretion.

f. Define Aphasia.

g. Lower motor neuron lesion.

h. Transport Maximum for Glucose.

i. Define learning and Memory.

j. Write various steps of excitation contraction coupling mechanism in flow chart.

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