

**Madhya Pradesh Medical Science University,
Jabalpur
MBBS First Professional Examination Nov-2023
Subject- Physiology
Paper-II**

Time: 3 Hours

Max. 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 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. (c)
- f) MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice, such answers will not be
- g) evaluated. In case of any ambiguity or discrepancy, the answer written in English will be considered as final. If a question having 2 marks should answered in up to 60 words.

Q1. Total MCQS: 10

1. Vasopressin is synthesized in $10 \times 1 = 10$

- (a) posterior pituitary
 - (b) anterior pituitary
 - (c) hypothalamic nuclei
 - (d) cerebral cortex
2. Glucose reabsorption takes place in
- (a) bowman's capsule
 - (b) proximal tubule
 - (c) distal tubule
 - (d) loop of henle
3. The deficiency of the hormone which causes osteoporosis of bone in old age is
- (a) progesterone
 - (b) oestrogen
 - (c) follicle stimulating hormone
 - (d) luteinizing hormone
4. An elderly man suffers from stroke that damages the vestibulocerebellum. What type of deficit in motor function would you expect to see
- (a) paralysis accompanied by spasticity
 - (b) falling and gait problems
 - (c) hyperreflexia
 - (d) muscle rigidity
5. Which of the following reflexes best describes incoming pain signals that elicit movements performed by antagonistic muscle groups on either

side of the body

- (a) crossed extensor reflex
- (b) withdrawal reflex
- (c) reciprocal inhibition
- (d) autogenic inhibition

6. Anterolateral tracts carry the following sensations EXCEPT

- (a) pain
- (b) temperature
- (c)
- (d)

7. The normal synaptic delay is

- (a) 0.5 ms
- (b) 5 ms
- (c) 0.05 ms
- (d) 5 s

8. Lentiform nucleus is formed by putamen along with

- (a) caudate nucleus
- (b) putamen
- (c) globus pallidus
- (d) dentate

9. A person who is running, the main source of energy he will be using in first minute is

- (a) glucose
 - (b) glycogen
 - (c) fat
 - (d) phosphate
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10. Following cells are responsible for acid secretion in kidney

- (a) I cells
- (b) P cells
- (c) mesangial cells
- (d) pericytes

Q2. Long Answer Questions

- a. A 60-year-old male presented to the physician with signs of flexion attitude, pill rolling movement of thumb over fingers, resting tremors, mask-like face, and festinating gait.
- i. What is the likely diagnosis (1)
 - ii. Describe the pathways of the parts involved (14)
 - iii. Comment on the treatment (5) $2 \times 20 = 40$
- b. Describe ovarian and uterine cycle. Mention indicators of ovulation (16+4)

Q3. Brief Answer Questions

- a. Describe the mechanisms of thermoregulation
 $6 \times 05 = 30$
- b. Describe counter current system and its role
- c. Describe the functions of thyroid hormones
- d. Describe the layers of retina
- e. Describe spermatogenesis and factors affecting it
- f. Describe withdrawal reflex

Q4. Short Answer Questions

a. Enumerate professional qualities of a physician

$$10 \times 2 = 20$$

b. Short note on aging

c. Define the term dysosmia

d. Glial cells and their functions

e. Circadian rhythm

f. Addison's disease

g. Milk ejection reflex

h. Tympanic reflex

i. Enumerate the factors affecting (GFR) glomerular filtration rate

j. Papez circuit

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