

Government Medical College, Datia
MBBS First Professional Examination 19th January-2023

Subject- Physiology
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 considered as malpractice, such answers will not be counted in the marks and action will be taken according to UFM rules.
- 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 words.

Q.1 Total MCQs: 10
10 X1 = 10

- 1 All but one is secreted by the posterior pituitary:

a. Neurophysin	b. ADH	c. Oxytocin	d. MSH
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- 2 Vitamin D3 deficiency in adults leads to:

a. Osteoimperfecta	b. Osteoporosis	c. Rickets	d. Osteomalacia
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- 3 In Argyll-Robertson pupil which one of the following reflexes is lost?

a. Near reflex	b. Accommodation reflex	c. Light reflex	d. Ciliospinal reflex
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- 4 Audible frequency range of human ear is:

a. 20-500 Hz	b. 500-7000 Hz	c. 20-20000 Hz	d. 20-2000 Hz
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- 5 Ovulation takes place mainly due to:

a. Increased secretion of oxytocin	b. Negative feedback relation between estrogen and LH	c. Positive feedback relation between estrogen and LH	d. Negative feedback relation between estrogen and FSH
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- 6 Which part of brain is outside blood-brain barrier?

a. Circumventricular organs	b. Thalamus	c. Cerebellum	d. Basal Ganglia
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- 7 Proprioception, vibration and stereognosis take relay in one of the following:

a. Intralaminar nuclei	b. Ventroposterior lateral nucleus	c. Reticular nucleus	d. Anterior nucleus
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- 8 A skeletal muscle develops maximum tension at sarcomere length of:

a. 1.5 micrometer	b. 3.2 micrometer	c. 2 micrometer	d. 4 micrometer
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- 9 In smooth muscle, depolarization is brought about by

a. Na ⁺ influx	b. Cl ⁻ influx	c. K ⁺ influx	d. Ca ⁺⁺ influx
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- 10 The spinothalamic tracts transmit all the following sensations except:

a. Touch	b. Proprioception	c. Pain	d. Temperature
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Q.2 Long Answer Questions
2X20=40

- a. State the mechanism of action, functions and regulation of thyroid hormones. Add a note on Grave's disease.
- b. Draw labelled diagrams of ascending tracts. Give their functions.

Q.3 Brief Answer Questions
6X05=30

- a. Functions of placenta
- b. Functions of progesterone
- c. Functions of hypothalamus
- d. Differentiate between the findings of upper motor neuron and lower motor neuron lesions.
- e. Draw a labelled diagram of visual pathway with effects of lesions at various levels.
- f. Explain the steps of cross-bridge cycle in skeletal muscle with the help of a diagram.

Q.4 Short Answer Questions
10X02=20

- a. Cushing syndrome
- b. Rinne's test
- c. Steps in spermatogenesis
- d. Implicit and explicit memory
- e. Ataxia
- f. Sarcotubular system
- g. Turner syndrome
- h. Broca's aphasia
- i. Give reasons for polydipsia, polyphagia and polyuria in diabetes mellitus.
- j. Gigantism