2406000101020602
EXAMINATION OCTOBER 2024 (SUPPLEMENTARY EXAM)
FIRST MBBS
PHYSIOLOGY (PAPER - II) (NEW) - LEVEL 2

[Time: As Per Schedule] **[Max. Marks: 100]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination: **FIRST MBBS**
   b. Name of the Subject: **PHYSIOLOGY (PAPER - II) (NEW) - LEVEL 2**
   c. Subject Code No: **2406000101020602**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

Student's Signature

Section A

Q.1 MCQ: **20**

1. Muller's doctrine of specific nerve energies is otherwise known as:
   A. Bell-Magendie law
   B. Label led line principle
   C. Weber-Fechner law
   D. Law of projection

2. A single sensory axon and all of its peripheral branches constitute a:
   A. Receptive field
   B. Sensory unit
   C. Dermatome
   D. Sensory nerve

3. The muscle spindle remains capable of responding to stretch even when the muscle is contracting. This is because of:
   A. Presence of stretch receptors in the tendon
   B. Co-activation no $f\alpha\&y$ −motor neurons
   C. Reciprocal innervation
   D. Autogenic inhibition

4. Joint position sense is transmitted by:
   A. Anterior spinothalamic tract
   B. Lateral spinothalamic tract
   C. Dorsal column medial lemniscal system
   D. Anterior Corticospinal tract

5. In which sensory system does excitation of the sensory receptor by an adequate stimulus result in hyperpolarization of receptor cells?

A. Visual pathway B. Auditory pathway
C. Taste pathway D. Olfactory pathway

6. Impedance matching is a function of:
A. Scala media B. Endolymph
C. Ear ossicles and tympanic membrane D. Cochlear nucleus

7. Human chorionic gonadotropin is structurally and function ally similar to:
A. LH B. FSH C. Growth hormone D. Inhibin

8. Which of the following hormones is not diabetogenic?
A. Epinephrine B. Cortisol
C. Growth hormone D. Glucagon

9. The release of androgens from the adrenal cortex is stimulated mainly by
A. LH B. FSH C. ACTH D. GnRH

10. In Humans, the hormone that is mainly secreted by adrenal medulla is:
A. Epinephrine B. Norepinephrine
C. Dopamine D. Adrenomedullin

11. The term neuro-hormone' is applied to:
A. Oxytocin and Vasopressin B.NO&CO
C. Glycine & Glutamate D.FSH&LH

12.Which of the following hormones does not act through Gprote in coupled receptor mechanism?
A. Epinephrine B. Angiotensin-II
C.ACTH D. Thyroxine

13. Somatostatin inhibits the secretion of:
A. Insulin B. Glucagon C. Growth hormone D. Gastrin

14. Iodine is concentrate din thyroid follicular epithelial cells by:
A. Primary active transport B. Secondary active transport
C. Simple diffusion D. Facilitated diffusion

15. Hypothalamus does not play a prominent role in the regulation of:
A. Food & water intake B. Temperature
C. Respiration D. Circadian rhythm

16. Which of the following is heat conserving mechanism?
A. Panting B. Sweating
C. Curling up in a ball D. Insensible water loss

17. Most of the ATP generated in the nerve cells is utilized to energize the ___
    A. Na+-Ca++exchanger
    B. H + ATPase
    C. Na+-K + ATPase
    D. Protein synthesis
18. The number of sodium channels per square micrometre of membrane in myelinated mammalian neurons is maximum in the:
    A. Cell body
    B. Dendritic zone
    C. Initial segment
    D. Node of Ranvier

19. Which of the following statements about electrotonic potentials is incorrect?
    A. They are graded responses
    B. They are local non propagated responses
    C. Maybe depolarizing or hyperpolarizing
    D. They are produced by a threshold stimulus.

20. Which of the following cells undergo meiotic division?
    A. Primordial germ cells
    B. Primary spermatocytes
    C. Secondary spermatocytes
    D. Secondary oocyte

Section B **40**

Q.2 Long Answer Questions **10**

A middle-aged person working as an executive in a company, complains of increased tiredness and pain in both the lower limbs, along with decrease in body weight, increase in urinary frequency and hunger since last six months.

a. What is the probable condition? (2 marks)
b. What blood parameters are likely to be deranged? (2 marks)
c. What is the patho-physiology for the above condition? (3 marks)
d. What are the Life Style Modifications required along with the drug therapy to treat this condition? (3 marks)

Q.3 Answer in Short (Any 5 out of 6) **15**

a. Shivering thermogenesis.
b. Actions of Vitamin D.
c. Natural contraceptive methods.
d. Wernicke's area
e. Attenuation reflex.
f. Milk let-down reflex.

Q.4 Short notes (Any 3 out of 4) **15**

a. Muscle spindle
b. Functions of hypothalamus.
c. Male puberty.

d. Auditory pathway.

Section C **40**

Q.5 Long Answer Question **10**

Enlist the hormones secreted from the pituitary gland and describe the functions of the Growth hormone. Explain the basis of acromegaly, gigantism, and dwarfism.
(2+5+3=10 marks)

Q.6 Answer in Short (Any 5 out of 6) **15**

a) Indicators of ovulation
b) Regulation of thyroid hormone secretion
c) Conductive deafness
d) Referred pain
e) Inverse stretch reflex
f) Properties of synapse

Q.7 Short notes (Any 3 out of 4) **15**

a) Spermatogenesis
b) Photo transduction
c) Cutaneous receptors
d) Flight and fight response

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