PAPER CODE: MB2019106
KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES
WARANGAL, TELANGANA STATE-506 002
MBBS FIRST YEAR SUPPLEMENTARY EXAMINATIONS: FEBRUARY, 2024
PHYSIOLOGY
PAPER-II
(NEW SCHEME)

Time: 3 Hours
Max Marks: 100

Note: Answer all questions

Give Diagrammatic representation wherever necessary

Multiple Choice Questions: 10 X 1 = 10

1. Which of the following is not a component of the near response?
   a) Pupillary constriction
   b) Convergence of the visual axes
   c) Increase in convexity of the lens
   d) Ciliary muscle relaxation

2. Tetany features include all of the following except:
   a) Neuromuscular hyperexcitability
   b) Carpopedal spasm
   c) Trousseau's sign
   d) Clotting defects

3. A 55-year-old man has developed the syndrome of inappropriate antidiuretic hormone secretion due to carcinoma of the lung. Which of the following physiological responses would be expected?

a) Increased plasma osmolality
b) Inappropriately low urine osmolality (relative to plasma osmolality)
c) Increased thirst
d) Decreased secretion of antidiuretic hormone from the pituitary gland

4. Oogenesis begins:

a) From approx 10th week of foetal life
b) At term
c) After birth
d) At puberty

5. First synapse of fibers conducting pain takes place at the level of:

a) Medulla to nucleus cuneatus
b) Grey matter of dorsal horn of spinal cord
c) Medulla in Nucleus Gracilis
d) Thalamus in posterior ventricular nucleus

6. Feed forward inhibition:

a) Helps to limit the duration of excitation of Purkinje cells produced by any given afferent impulses
b) Refers to excitation of granule cells is rapidly stopped by negative feedback loop
c) Determines inhibitory Purkinje fiber discharge
d) Regulates excitatory Purkinje fiber discharge

7. Satiety centre in hypothalamus is regulated by:
   a) Gastric dilatation
   b) Blood glucose levels
   c) Blood insulin levels
   d) Fatty acids

8. Olfactory receptors are:
   a) Sensitive to physical stimuli
   b) Rapidly replaced
   c) Slowly adapting
   d) Bipolar neurons

9. In the patellar tendon reflex, which of the following items will synapse directly on alpha motor neurons that innervate the muscle being stretched?
   a) Ia sensory fibre
   b) Ib sensory fibre
   c) Excitatory interneurons
   d) Gamma motor neurons

10. Which of the following is NOT a characteristic of an action potential
   a) Refractory period
   b) Conductivity
   c) Accommodation
   d) Graded response to increasing strength of stimuli

Essay/ Long Answer Questions: 2 X 15 = 30

11. A 48-years old female visits doctor with complaints of weakness, weight gain and feeling of excessive cold. On investigations, her TSH was high and T3, T4 were low.

a) Identify the condition.
b) Describe in detail the biosynthesis of thyroid hormone. Enumerate the functions of the thyroid hormone in different organ systems.
c) List the conditions caused due to the alterations in serum thyroid hormone levels. (2+8+5)

12. A 59 years old man visited his physician with the following signs and symptoms.
Tremor in his hands and fingers. His face is inexpressive and he makes few movements, he has difficulty in standing up, he walks slowly and his arms do not swing appreciably, his speech is monotonous but he shows no intellectual deficit. Based on this information answer the following questions.
a) Identify the condition and the part of the nervous system involved in this disease.
b) Describe the connections and functions of the part of nervous system involved.
C) Explain the physiological basis of its management.
(4+8+3)

Short Answer Questions: 7 X 6 = 42

13. Describe the steps involved in the transmission of impulses across the neuromuscular junction. Discuss the role of neuromuscular blocking agents.

14. Define Spermatogenesis and describe the hormones and factors influencing Spermatogenesis

15. Enumerate the Functions of thalamus.

16. Describe the tests for ovulation.
17. Discuss the role of skin in temperature regulation.
18. Describe the causes and manifestations of Cushing's Syndrome.
19. Describe the process involved in pain modulation.

Very Short Answer Questions: 6 X 3 = 18

20. Renshaw cell inhibition.
21. Define Electroencephalogram (EEG) what are the waves seen during REM sleep
22. Describe the rights and responsibilities of patients.
23. List the contraceptive methods in females. Briefly explain the mechanism of action intrauterine contraceptive devices.
24. Discuss any three properties of skeletal muscle.
25. Weber-Fechner law.