QP Code: P25DRIS033

Reg. No : ....
Name : ....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

I SEMESTER (CBCSS - PG) DEGREE EXAMINATIONS, NOVEMBER 2025
(Regular/Improvement/Supplementary)
M. Sc. Psychology
PSY1C04 : Physiological Psychology
2024 Admission Onwards

Time:3 Hours **Maximum Weightage:30**

Part A

*Short answer type questions. Answer **any four**. Weightage 2 for each. **(4x2 = 8 Weightage)***

1. A patient reports feeling a "burning cold" sensation when exposed to icy wind. Apply the concept of paradoxical cold to explain how simultaneous activation of cold and nociceptive fibers could produce this perception.
2. Explain how the trichromatic theory accounts for our ability to perceive different colors.
3. What are the different types of thirst receptors? Where are they located in the body?
4. State Hebb's theory?
5. What is the role of cortex in learning?
6. Compare the role of hypothalamus in controlling appetite.
7. Identify the sleep mechanisms between wakefulness and sleep.

PART B

*Short essay-type questions. Answer **any four**. Weightage 3 for each. **(4x3 = 12 Weightage)***

8. How would damage to Broca's area versus Wernicke's area differently affect a patient's speech? Apply your understanding of language processing to predict the specific deficits in each case.
9. Analyze split brain studies.
10. Name the three key structures that make up the limbic system's "Emotional Circuit".
11. Explain vision and visual pathway.

Turn Over

12. Critically evaluate the role of hormones in regulating physiological processes in the human body.

13. How can different neuro-anatomical research methods be applied to analyze and interpret the structural and functional connectivity of the brain?

14. Examine the condition, agenesis of the corpus callosum (ACC), and the role of the corpus callosum in normal brain activity.

PART C

Essay-type questions. Answer ***any two****. Weightage* **5** *for each.* ***(2x5 = 10 Weightage)***

15. With the help of a well-labeled diagram, sketch the spinal nerves and their roots. Clearly mark the following parts: dorsal root, ventral root, spinal nerve, dorsal root ganglion, gray matter, and white matter. Briefly explain the structure and function of each labeled part.

16. Analyze the relationship between physiological correlates and autonomic responses of emotions and state neural basis of emotions.

17. Relate the dynamics of sexual behavior, sleep and hunger in maintaining biological rhythm.

18. Give a brief account on pain receptors and different pain perception theories.

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