

2021

PHYSIOLOGY — HONOURS

Paper : CC-4

(Nervous System)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer **any five** questions : 2×5
- (a) What do you mean by upper and lower motor neuron?
 - (b) What is Lissauer's tract?
 - (c) What is intention tremor?
 - (d) What is Golgi tendon organ?
 - (e) What is aphasia?
 - (f) What do you mean by fusimotor system? Give its significance.
 - (g) What do you understand by the term gray and white rami communicans?
 - (h) What do you mean by circumventricular organs?
 - (i) What do you mean by explicit memory?
 - (j) Mention the function of mammillothalamic tract.

Group - B

2. Write **any two** questions :
- (a) Describe with a suitable diagram the histological structure of blood brain barrier. 3+2
 - (b) What do you mean by polymodal nociceptors? State the differences between slow and fast pain. 2+3
 - (c) Which neuronal circuit in the basal ganglia is responsible for smooth transition of one motor programme from another? What are ataxia and cog-wheel rigidity? 2+3
 - (d) Describe the EEG pattern in different stages from wakefulness to sleep. 5

Please Turn Over

Group - C

3. Answer *any three* questions :

- (a) Describe the role of cerebellum in the control of muscle tone, posture and equilibrium.
What is thalamic animal? 7+3
- (b) Discuss the role of hypothalamus in body temperature regulation. Why thalamus is called the
“Gateway to the Cerebral Cortex”? 8+2
- (c) Describe Papez Circuit and discuss its role in the regulation of emotions. How do you classify
memory on the basis of information stored? (3+4)+3
- (d) What is meant by metabotropic receptors? Describe the structure and functions of different types
of nicotinic acetylcholine receptors. 3+(3+4)
- (e) Describe the sensory and motor changes that occur after hemisection of spinal cord at L1 level.
Describe the principle and use of PET scan. 5+(3+2)
- (f) Describe with the diagram the neural pathways carrying pain sensation from spinal cord up to
thalamus. What is referred pain and why does it occur? 7+(1+2)
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