

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2018

(CUCBCSS-UG)

Complementary Course

PSY 2C 01—HUMAN PHYSIOLOGY—II

Time : Three Hours

Maximum : 80 Marks

Part A

*Objective Type Questions.**Each question carries 1 mark.*

Multiple choices. Choose the correct answer :

1. Spinal cord and brain are wrapped in protective membranes known as _____.
(a) Nodes of ranvier. (b) Axomembranes.
(c) Myelin sheath. (d) Meninges.
2. Which portion of the brain is responsible for various emotions such as pleasure, fear and happiness ?
(a) Thalamus. (b) Reticular formation.
(c) Hypothalamus. (d) Limbic system.
3. When sympathetic nervous system is activated it causes the secretion of :
(a) Adrenaline. (b) Acetyl choline.
(c) Epinephrine. (d) Amphetamines.
4. The brain imaging technique that makes use of the blood flow is :
(a) MRI. (b) PET.
(c) CBF. (d) EEG.
5. Which of the following options is appropriate for the processing center "Wernicke's area" found in left cerebral cortex ?
(a) Helps us to understand both written and spoken word.
(b) Adds grammatical refinements.
(c) Sends information to Broca's area.
(d) Both (a) and (c).

Fill in the blanks :

6. _____ is also known as paradoxical sleep.
7. Preganglionic neurons lie within the _____.

Turn over

8. Skeletal muscles are controlled by _____.
9. _____ is a surgical procedure that is intended to carefully injure a very specific part of the brain in order to improve a patient's function and quality of life.
10. _____ cells produce a fatty insulating material called myelin.

(10 × 1 = 10 marks)

Part B

*Answer all questions.
Each question carries 2 marks.*

- | | |
|----------------------------|-----------------------------|
| 11. Multi-synaptic reflex. | 12. GABA. |
| 13. Saltatory propagation. | 14. ESB. |
| 15. Stages of sleep. | 16. Broca's area. |
| 17. Face recognition. | 18. Basal Ganglia. |
| 19. Neuron. | 20. Ablation and Lesioning. |

(10 × 2 = 20 marks)

Part C

*Answer any six questions.
Each question carries 5 marks.*

21. Write a short paragraph on the functions of neurotransmitters.
22. Explain the role played by meninges.
23. Write short note on blood-brain barriers.
24. Explain the steps involved in a nerve impulse transmission.
25. Write short note on the concept of the dominant hemisphere.
26. Write a short note about reflex action and the various reflexes.
27. Explain the basic theories of sleep.
28. Provide an overview of the structure and functions of cerebellum.

(6 × 5 = 30 marks)

Part D

*Answer any two questions.
Each question carries 10 marks.*

29. Give an overview of the nervous system elaborating on its divisions.
30. Elucidate on the functions of cerebellum in overall motor control.
31. Describe the functions of the brain in communication with special preference to the sensory and motor aspects of communication.
32. Explain different brain imaging techniques.

(2 × 10 = 20 marks)

SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, MAY 2019

B.Sc. Psychology

PSY 2C 01—HUMAN PHYSIOLOGY—II

Time : Three Hours

Maximum : 80 Marks

Part A

(A) Objective Type Questions. Each question carries 1 mark :

(i) Multiple Choices. Choose the correct answer.

1. Which portion of the brain is responsible for various emotions such as pleasure, fear, and happiness ?
 - (a) Thalamus.
 - (b) Reticular formation.
 - (c) Hypothalamus.
 - (d) Limbic System.
2. Which of the following options is appropriate for the processing center "Wernicke's area" found in left cerebral cortex ?
 - (a) Helps us to understand both written and spoken word.
 - (b) Adds grammatical refinements.
 - (c) Sends information to Broca's area.
 - (d) Both (a) and (c).
3. Which one of the followings is correct in regard to the function of cerebellum ?
 - (a) Regulate heartbeat.
 - (b) Muscle coordination.
 - (c) Secretes melatonin.
 - (d) Sense reception.
4. Preganglionic neurons lie within the _____.
 - (a) Parasympathetic nervous system.
 - (b) Sympathetic nervous system.
 - (c) Peripheral nervous system.
 - (d) Central nervous system.
5. Skeletal muscles are controlled by _____.
 - (a) Parasympathetic nerves.
 - (b) Sympathetic nerves.
 - (c) Somatic nerves.
 - (d) Autonomic nerves.

Turn over

(ii) Fill in the Blanks :

6. When sympathetic nervous system is activated it causes the secretion of _____.
7. _____ is the lowest part of brain located at the rear base of the skull.
8. _____ acts as an independent center of reflex movements.
9. _____ is also known as paradoxical sleep,
10. _____ is a surgical procedure that is intended to carefully injure a very specific part of the brain in order to improve a patient's function and quality of life.

(10 × 1 = 10 marks)

Part B

*Answer all questions.
Each question carries 2 marks.*

11. Synapse.
12. Neurotransmitters.
13. CBG.
14. ESB.
15. Lesion and ablation.
16. Serotonin.
17. Wernicke's Area.
18. Face recognition.
19. Nerve Impulse.
20. Sensory and motor aspects of communication.

(10 × 2 = 20 marks)

Part C

*Answer any six questions.
Each question carries 5 marks.*

21. Explain PNS highlighting the difference between the sub systems.
22. Write a short note about the non-nervous tissues.
23. Provide an explanation of the basal ganglia and its motor functions.
24. Define reflex action. Discuss its various form.
25. Write short note on various theories of sleep.
26. Elucidate on the association areas.

27. Name the various Brain lobes with its functions.
28. Explain the major brain imaging techniques.

(6 × 5 = 30 marks)

Part D

*Answer any **two** questions.*

Each question carries 10 marks.

29. Illustrate the structure and functions of a neuron.
30. Provide a description of the cerebellum highlighting its major areas and functions.
31. Write a detailed report about the functions of the specific cortical areas.
32. Explain the various states of brain activity with special focus on the brain waves and the REM sleep.

(2 × 10 = 20 marks)

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2017

(CUCBCSS—UG)

Complementary Course

PSY 2C 01—HUMAN PHYSIOLOGY—II

Time : Three Hours

Maximum : 80 Marks

A. Answer *all* questions. Each carries 1 mark :

Choose the correct answer :

1 ——— is known as seat of emotions :

- | | |
|--------------------|-----------------|
| (a) Limbic system. | (b) Cerebellum. |
| (c) Thalamus. | (d) Medulla. |

2 Resting state of the Cell is called ———.

- | | |
|---------------------|---------------------|
| (a) Polarization. | (b) Depolarization. |
| (c) Repolarization. | (d) Inhibition. |

3 Dreaming occurs during ——— sleep.

- | | |
|-----------|-----------|
| (a) NREM. | (b) REM. |
| (c) ROM. | (d) NROM. |

4 Ablation is otherwise known as :

- | | |
|------------------|-----------------|
| (a) Extirpation. | (b) Extraction. |
| (c) Stimulation. | (d) Recording. |

5 ——— lobe is regarded as the auditory cortex.

- | | |
|----------------|---------------|
| (a) Frontal. | (b) Parietal. |
| (c) Occipital. | (d) Temporal. |

Fill in the blanks :

6 Microglia is an example of ———.

7 Broca's aphasia is otherwise known as ———.

8 MRI stands for ———.

Turn over

- 9 _____ is the resting membrane potential of a neuron.
10 _____ refers to the inability to identify familiar faces.

(10 × 1 = 10 marks)

B. Answer *all* questions. Each carries 2 marks :

- 11 Presynaptic neuron.
- 12 PET Scan.
- 13 Multisynaptic Reflex.
- 14 Hindbrain.
- 15 Somatic nervous system.
- 16 Localization of Language.
- 17 Stimulation.
- 18 Paradoxical sleep.
- 19 CSF.
- 20 Inter neurons.

(10 × 2 = 20 marks)

C. Answer any *six* of the following. Each carries 5 marks :

- 21 Spinal cord.
- 22 Cerebellum and its motor functions.
- 23 Functions of brain in communication.
- 24 Reflex Action.
- 25 Basic theories of Sleep.
- 26 PNS.
- 27 Concept of dominant hemisphere.
- 28 Saltatory conduction.

(6 × 5 = 30 marks)

D. Answer any *two* of the following. Each carries 10 marks :

29 Explain the techniques used in brain imaging.

30 Write an essay on the functions of cerebral cortex.

31 What are reflexes ? Explain different types of reflexes and their functions.

32 Write an essay on the states of brain activity.

(2 × 10 = 20 marks)