

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2014

(UG-CCSS)

Complementary Course—Psychology

PS 3C 01—PHYSIOLOGICAL PSYCHOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Answer *all* questions. Each question carries $\frac{1}{4}$ weightage :

A. Choose the correct answer :

1 What is neuroglia ?

- (a) Ganglion neurons. (b) Neuronal supporting cells.
 (c) Neurons of cerebral cortex. (d) Sensory neurons.

2 Myelin sheath is formed of :

- (a) Protein and lipids. (b) Lipids only.
 (c) Carbohydrates and lipids. (d) Protein only.

3 Which neurons transmit sensory information from brain and spinal cord to the muscles ?

- (a) Motor. (b) Afferent.
 (c) Sensory. (d) Inter.

4 The cell membrane of neurons plays an important role in the resting potential and this resting potential is sometimes called :

- (a) Polarization. (b) Sleepig potential.
 (c) Membrane potential. (d) Potential spike.

B. Match the following :—

- 5 MRI (a) Neurotransmitter.
 6 Dopamine (b) Protection.
 7 Forebrain (c) Thalamus.
 8 Meninges (d) Radiowaves.

C. Fill in the blanks :

- 9 Neurotransmitters are released into the _____ of two adjacent neurons.
 10 Sensory neurons are also called _____ neurons
 11 _____ is a slight electrical charge (negative charge) stored inside the neuron's cell membrane when the neuron at rest.
 12 _____ is a stage of sleep usually associated with dreams.

(12 \times $\frac{1}{4}$ = 3 weightage)**Turn over**

II. Short Answer Questions. Answer *all* nine questions. Each question carries 1 weightage :

- 13 What is reflex arc ?
- 14 What is REM sleep ?
- 15 What are the functions of basal ganglia ?
- 16 What is an afferent neuron ?
- 17 Define resting potential.
- 18 What is synaptic transmission ?
- 19 What is CSF ?
- 20 What is circadian rhythm ?
- 21 Define neuroscience.

(9 × 1 = 9 weightage)

III. Short Essay Questions. Answer any *five* questions. Each question carries 2 weightage :

- 22 Discuss CT scan.
- 23 Explain the process of monosynaptic reflex.
- 24 What is blood brain barrier ?
- 25 Explain the functions of hypothalamus.
- 26 Discuss the structure of meninges.
- 27 Distinguish between REM sleep and Slow-wave sleep.
- 28 Discuss the physiological effect of sleep.

(5 × 2 = 10 weightage)

IV. Essay Questions. Answer any *two* questions. Each question carries 4 weightage :

- 29 Explain the structure of a neuron with the help of a diagram and discuss the basic functions of neurons.
- 30 Discuss the main brain imaging techniques.
- 31 Explain the sensory and motor processing actions of the brain.

(2 × 4 = 8 weightage)