



BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – B.Sc.(PSY)-Hons-2022

Course Name – Biological Basis of Behavior

Course Code - PSYC202

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Identify which of the following best describes the second stage of the GAS model
- | | |
|--|--|
| a) The body adapts to the stressor and returns to its normal state | b) The body's resistance to the stressor increases |
| c) The body's physical and psychological resources become depleted | d) The body enters a state of shock and immobilization |
- (ii) Choose an alternative to PET
- | | |
|------------|---------|
| a) MRI | b) fMRI |
| c) CT scan | d) EEG |
- (iii) Select the structure that is not part of mid brain
- | | |
|----------------------|----------------|
| a) Tegmentum | b) Cerebellum |
| c) Cerebral aqueduct | d) Red nucleus |
- (iv) Determine the effect of thiamine deficiency
- | | |
|-------------------------|------------------------|
| a) Korsakoff's syndrome | b) Alzheimer's Disease |
| c) Memory loss | d) Nausea |
- (v) Which neurotransmitter is responsible for the feeling of pleasure and reward?
- | | |
|------------------|--------------|
| a) Dopamine | b) Serotonin |
| c) Acetylcholine | d) GABA |
- (vi) Complete the Sentence: _____ form myelin sheaths around axons in the PNS.
- | | |
|-----------------|---------------------|
| a) Schwann cell | b) Microglia |
| c) Astrocytes | d) Oligodendrocytes |
- (vii) Identify the functions of blood-brain barrier

- a) Preventing harmful substances from entering the brain b) Regulating the transport of essential nutrients
- c) Maintaining the chemical environment of the brain d) All of these
- (viii) Write the role of the presynaptic neuron in synaptic transmission
- a) To receive signals from other neurons b) To send signals to other neurons
- c) To produce neurotransmitters d) To receive neurotransmitters from other neurons
- (ix) Examine function of the amygdala in the physiology of emotion
- a) It process emotional information b) It plays a key role in the generation of fear and anxiety responses
- c) Regulation of physiological responses to emotional stimuli d) All of these
- (x) Resting Potential can be associated with -
- a) Depolarization b) Hyperpolarization
- c) Polarization d) None of these
- (xi) Determine the threshold value at which the sodium-potassium gate closes
- a) The point at which the membrane potential becomes more positive than -70 mV b) The point at which the membrane potential becomes more negative than -70 mV
- c) The point at which the membrane potential becomes +30 mV d) The point at which the membrane potential becomes more negative than -30 mV
- (xii) Which of the following plays a significant part in voluntary movement?
- a) Putamen b) Basal ganglia
- c) Striatum d) Amygdala
- (xiii) What is the full form of TMS
- a) Transcranial magnetic stimulation b) Transactional marginal stimulation
- c) Transcranial marginal stimulation d) None of these
- (xiv) Explain contrast agent that is used in contrast X-ray
- a) A substance that is injected, swallowed, or administered rectally to make certain tissues or organs more visible on X-ray b) A type of radiation that is used in X-ray imaging
- c) A special filter that is used to reduce radiation exposure during X-ray imaging d) A type of camera that is used to capture X-ray images
- (xv) Osmotic thirst is triggered by which of the following
- a) A decrease in blood volume b) An decrease in the concentration of solutes in the blood
- c) An increase in the concentration of solutes in the blood d) An increase in blood glucose levels

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Identify the differences between MRI and fMRI (3)
3. Summarize how the brain regulates temperature. (3)
4. Write the role of efferent and afferent nerves (3)
5. Discuss the importance of evolutionary psychology (3)
6. Explain inhibitory postsynaptic potential (IPSP) (3)

OR

- Explain the role of hypothalamus in hunger (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

- 7. Establish the connection between nature and nurture. (5)
- 8. Discuss the ethical issues related to animal research (5)
- 9. Describe the localization of language using Geschwind model (5)
- 10. Examine the various forms of amnesia. (5)
- 11. Write down what you understand by resting potential (5)
- 12. Explain the role of amygdala in human emotion (5)

OR

Illustrate the role of Insulin and Glucagon in hunger (5)
