

***Introduction to Biopsychology 4th edition Wickens
Test Bank***

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Multiple Choice Questions

Chapter 1: An introduction to neurons, brains, and biological psychology

1. According to the Greek philosopher Aristotle what was the major function of the brain?

- a. To initiate movement
- b. To act as the major organ of sensation
- c. To cool the blood
- d. To think and contemplate

Ans: C

2. Where in the brain would you find the two lateral ventricles?

- a. Within each cerebral hemisphere
- b. Between the two thalami
- c. Within each cerebellum
- d. In the brain stem

Ans: A

3. According to Descartes, where did the mind and body interact in the brain?

- a. The corpus callosum
- b. The pineal gland
- c. The ventricles
- d. The frontal part (above the eyes)

Ans: B

4. What did the Italian Camillo Golgi discover in 1875?

- a. The axon
- b. A stain that allowed nerve tissue to be visualised
- c. The action potential
- d. The chromatic microscope

Ans: C

5. Who first coined the term 'synapse' in 1897?

- a. Santiago Ramon y Cajal
- b. Jan Purkinje
- c. Otto Deiters
- d. Charles Sherrington

Ans: D

6. Who performed an experiment on Easter Sunday 1921 which proved the existence of chemical neurotransmission?

- a. Ramon y Cajal
- b. Otto Loewi
- c. Sir Henry Dale
- d. John Eccles

Ans: B

7. Which of the following neurotransmitter substances was discovered by Henry Dale?

- a. Acetylcholine
- b. Dopamine
- c. GABA
- d. Serotonin

Ans: A

8. During the first millisecond or so of an action potential, what ion rushes into the neuron to cause a positive change in the resting potential?

- a. Calcium
- b. Chloride
- c. Potassium
- d. Sodium

Ans: D

9. What part of the neuron is a specialised part of the soma where a change in potential of about +15mV triggers a nerve impulse?

- a. Dendrite

- b. Nucleus
- c. Axon hillock
- d. Golgi apparatus

Ans: C

10. Where would you find the Nodes of Ranvier?

- a. On the axon
- b. On the cell body
- c. On the dendrites
- d. On and around the axon terminals

Ans: A

11. Muscarinic and nicotinic receptors are sensitive to what neurotransmitter?

- a. Acetylcholine
- b. Dopamine
- c. Noradrenaline
- d. Serotonin

Ans: A

12. Which of the following structures is not part of the brain stem?

- a. Medulla oblongata
- b. Hypothalamus
- c. Pons
- d. Reticular formation

Ans: B

13. The caudate nucleus, putamen and globus pallidus form what part of the brain?

- a. Basal ganglia
- b. Corticospinal pathway
- c. Medial lemniscus system
- d. Corticobulbar tract

Ans: A

14. Whereabouts in the brain would you find the hippocampus and amygdala?

- a. The diencephalon
- b. The medial frontal cortex
- c. The basal forebrain
- d. The limbic system

Ans: D

15. What region of the brain was famously mapped into 52 different regions on the basis of cellular differences by Brodmann in 1909?

- a. Cerebellum
- b. Cerebral cortex
- c. Hypothalamus
- d. Limbic system

Ans: B

Chapter 2: The visual system

1. What structure or substance in the eye brings the visual image into sharp focus on the retina?

- a. The aqueous humour
- b. The cornea
- c. The lens
- d. The pupil

Ans: C

2. Which of the following cells is *not* found in the retina?

- a. Amacrine cells
- b. Bipolar cells
- c. Horizontal cells
- d. Pyramidal cells

Ans: D

3. After leaving the retina, the bulk of the ganglion cells terminate in what brain structure?

- a. Inferior colliculus

- b. Lateral geniculate nucleus
- c. Optic chiasma
- d. Pretectum

Ans: B

4. Who was the first person to discover that ganglion cells in the optic nerve had centre-surround receptive fields?

- a. Stephen Kuffler
- b. David Hubel
- c. Torsten Weasel
- d. Larry Weiskrantz

Ans: A

5. A complex cell in the visual cortex:

- a. Responds best to angles
- b. Responds best to lines, but requires visual input from both eyes
- c. Responds maximally when a line is anywhere in the visual field providing it is in the correct orientation
- d. Responds to colour input (red-green, blue-yellow)

Ans: C

6. How many types of cone are found in the fovea of the retina?

- a. One
- b. Two
- c. Three
- d. None (there are no cones in the fovea – only rods)

Ans: C

7. The parvocellular and magnocellular cells are found in the:

- a. Retina
- b. Lateral geniculate nucleus
- c. Primary visual cortex
- d. Secondary visual cortex

Ans: B

8. Which of the following are *not* found in the cortical modules of the visual cortex?

- a. Orientation columns
- b. Ocular dominance columns
- c. Cytochrome oxidase blobs
- d. Grandmother cells

Ans: D

9. Areas V2, V3 and V4 are found in what region of the brain?

- a. Medial temporal visual area
- b. Occipital lobes
- c. Parietal lobes
- d. Temporal lobes

Ans: B

10. What is akinetopsia?

- a. An inability to see motion
- b. An inability to see vertical lines
- c. An inability to horizontal lines
- d. An inability to orient to new stimuli entering the visual field

Ans: A

11. The patient DB who demonstrated blindsight had damage to the:

- a. Angular gyrus
- b. Right visual cortex
- c. Superior colliculus
- d. The right-sided lateral geniculate nucleus

Ans: B

12. According to Goodale and Milner (1992) what is the main function of the dorsal visual pathways which runs through the parietal lobes?

- a. To recognise faces
- b. To recognise objects

- c. To create a cognitive map
- d. To visually guide motor actions

Ans: D

13. Associative agnosia is associated with damage to what part of the brain?

- a. Frontal cortex
- b. Parietal lobe
- c. Temporal cortex
- d. Visual, association cortex

Ans: C

14. Which of the following is not a characteristic of Balint's syndrome?

- a. Colour blindness
- b. Ocular apraxia
- c. Ocular ataxia
- d. Simultanagnosia

Ans: A

15. Where in the brain according to Daniel Dennett would you find the Cartesian Theatre where all the visual input converges to create a unified scene?

- a. Frontal lobes
- b. The inter-hemispheric connections of the temporal lobes
- c. Occipital cortex (V2-V5 areas)
- d. It doesn't exist!

Ans: D

Chapter 3: Sensory systems other than vision

- 1. Where would you find the ossicles?
 - a. At the inner end of the auditory canal
 - b. In the middle ear
 - c. In the cochlea
 - d. In the semicircular canals