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

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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 existences 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 causes 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

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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?

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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

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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

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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

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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

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