

Practice Questions

CHAPTER 1

- OCD is usually treated with SSRI medications, but why didn't this medication work in the case of Sammy who developed OCD as a result of an autoimmune condition?
 - Sammy was very intelligent and figured it all out pretty quickly
 - SSRIs did not treat the real cause of the condition
 - The doctors did not know that SSRIs could cause Tourette's syndrome
 - Sammy's mother did not have medical insurance
- A pleasure center is located within the:
 - Pituitary gland
 - Adrenal gland
 - Occipital cortex
 - Hypothalamus
 - Thalamus
- A lesion is:
 - A legion of neurosurgeons
 - Brain damage
 - Conduction of brain surgery in a leisurely way
 - An army of gamma cells mobilized to fight viruses
- What structure is not a part of the limbic system?
 - Amygdala
 - Hypothalamus
 - Thalamus
 - Hippocampus
 - Cortex
- Brenda Milner demonstrated that there is only one memory system, localized in the hippocampus.
 - True
 - False
- A cluster of cells in the brain is called:
 - Cluster one
 - Ganglion
 - Nucleus
 - Nexus
- The medulla controls aggression in humans.
 - True
 - False
- What subfield of Biological Psychology utilizes a method of turning off genes?
 - Gene psychology
 - Neuropsychology
 - Comparative Psychology
 - Any study that uses orangutans
 - Chromosomal Behaviorism
- Which one is not a field of Biopsychology?
 - Neuropsychology
 - Nuclear Psychology
 - Cognitive Neuroscience
 - Psychophysiology
 - Psychopharmacology
- Where is the PAG located?
 - Cortex
 - Hypothalamus
 - Midbrain
 - Medulla
 - Thalamus

CHAPTER 2

1. The limbic system, pons, medulla and basal nuclei are:
 - a. Cortical structures
 - b. Infracortical structures
 - c. Transcortical structures
 - d. Subcortical structures
2. The midbrain contains all of these structures except:
 - a. Reticular formation
 - b. Caudate nucleus
 - c. PAG
 - d. Superior colliculus
3. Since cranial nerves originate in the brain, they are categorized as the central nervous system.
 - a. True
 - b. False
4. The ventral root specializes in:
 - a. Sensory function
 - b. Motor function
 - c. Dorsolateral function
 - d. Anterior function
 - e. Sagittal function
5. What is not a part of a neuron?
 - a. Dendrites
 - b. Axon
 - c. Axion
 - d. Schwann cells
 - e. Cell body
6. Widening of the pupils is a function of which system?
 - a. Sympathetic system
 - b. Parasympathetic system
 - c. Endothelial system
 - d. Endometrial system
 - e. Entheric system
7. How many sympathetic chains are there?
 - a. 3
 - b. 4
 - c. 5
 - d. 2
 - e. 8
8. The parasympathetic system decreases digestion.
 - a. True
 - b. False
9. All organs that are supplied by the sympathetic system are also supplied by the parasympathetic system.
 - a. True
 - b. False
10. To “innervate” means to
 - a. Obstruct
 - b. Supply
 - c. Inhibit
 - d. Excite
 - e. Come from within

CHAPTER 3

1. Membrane channels are made of:
 - a. Cells
 - b. Astrocytes
 - c. Proteins
 - d. Mitochondria
 - e. Microtubules
2. The surface of the blood brain barrier is impenetrable due to:
 - a. Tight junctions of endothelial cells
 - b. Loose junctions of effemeral cells
 - c. Ionic bonds of protoismeric cells
 - d. Rule of polar opposites
3. Signs are objectively observable behaviors in a patient and symptoms are a patient's subjective experience.
 - a. True
 - b. False
4. An epidural block is administered in:
 - a. L1-L2 section of the medulla
 - b. L1-L2 section of the spinal cord
 - c. T1-T2 section of the pons
 - d. F1-F2 section of the spinal cord
5. How does CSF move through ventricles?
 - a. Via the movement of cilia
 - b. Via Magnesium-Sodium pump
 - c. Via Sodium-Glutamate pump
 - d. Via Rosenzweig's pump
6. What is accomplished with lumbar puncture?
 - a. An epidural block
 - b. Collection of CSF for an analysis of its content
 - c. Hydrocephalus
 - d. Stroke
7. Most cases of encephalitis are caused by:
 - a. Parasites
 - b. Fungi
 - c. Bacteria
 - d. Viruses
8. A shunt is the most common treatment for:
 - a. Hydrocephalus
 - b. Epidural block
 - c. CSF
 - d. Encephalitis
9. Symptoms of _____ consist of trouble seeing in one or both eyes, headache, speaking deficits, difficulty understanding and numbness or paralysis of the face, arm or leg.
 - a. Parkinson's Disease
 - b. Alzheimer's Disease
 - c. Stroke
 - d. CSF poisoning
10. Protective meninges covering the spinal cord are scrura, sanapia, arachnoid and sdura.
 - a. True
 - b. False

CHAPTER 4

1. The soma is a neuron's
 - a. Cell body
 - b. Dendrite
 - c. Axon
 - d. Axon terminal
 - e. Axon hillock
2. In the axon terminal, mitochondria provide energy for
 - a. Neurotransmitter release
 - b. Neurotransmitter tunneling
 - c. Enzyme's event horizon
 - d. White parallax effect
3. Smooth endoplasmic reticulum:
 - a. Produces fat and carbohydrates
 - b. Moves neurotransmitters to Golgi Apparatus
 - c. Creates vesicles
 - d. All of the above
 - e. Some of the above
4. With their enzymes, peroxisomes
 - a. Destroy free radicals
 - b. Create free radicals
 - c. Double the impact of free radicals
 - d. Destroy Golgi Apparatus
 - e. Destroy Endoplasmic Reticulum
5. What stimuli can open the gated channels?
 - a. Chemicals
 - b. Electrical changes
 - c. Deformations of the channel
 - d. All of the above
 - e. Some of the above
6. Deactivation of a cell cannot activate the synapsing cell.
 - a. True
 - b. False
7. Ions entering the cell perform
 - a. A retrograde transport
 - b. An anterograde transport
 - c. A lateral inhibition
 - d. An Influx
 - e. An Efflux
8. How many chromosomes does a sperm cell contain?
 - a. 23 pairs (46)
 - b. 46 pairs
 - c. 46
 - d. 32
 - e. 23
9. When we say that astrocytes modulate the synaptic activity, we mean that astrocytes _____ it.
 - a. Circumvent
 - b. Decrease
 - c. Increase
 - d. B and C
 - e. None of the above
10. Levels of extracellular oxygen, carbon dioxide and neurotransmitters are regulated by
 - a. Neurons
 - b. Gliomas
 - c. Satellite cells
 - d. Radial glia

CHAPTER 5

1. What type of a bond is formed between atoms sharing their electrons?
 - a. Transmigrating
 - b. Ionic
 - c. Dualistic
 - d. Covalent
2. The neuronal membrane's passive channels are always
 - a. Non-functional
 - b. Open
 - c. Stimulated
 - d. Impossible to use
 - e. Lateral
3. What factor does not influence the membrane's voltage?
 - a. Sodium-potassium pump
 - b. Electrostatic gradient
 - c. Concentration gradient
 - d. Membrane's permeability
 - e. Magnesium-Calcium pump
4. A local signal is composed of
 - a. Neurotransmitters
 - b. Ions
 - c. Enzymes
 - d. Phospholipids in the membrane
 - e. Genetic triplets
5. An electrotonic signal is composed of
 - a. Neurotransmitters
 - b. Ions
 - c. Enzymes
 - d. Phospholipids in the membrane
 - e. Genetic triplets
6. Excitatory post-synaptic potential is composed of
 - a. Neurotransmitters
 - b. Ions
 - c. Enzymes
 - d. Phospholipids in the membrane
 - e. Genetic triplets
7. Inhibitory post-synaptic potential is composed of
 - a. Neurotransmitters
 - b. Ions
 - c. Enzymes
 - d. Phospholipids in the membrane
 - e. Genetic triplets
8. Hyperpolarization happens during the
 - a. Relative refractory period
 - b. Constant period
 - c. Period of small N values
 - d. Absolute zero period
9. The size of a chemical synapse is like a _____ in comparison to the size of an electrical synapse.
 - a. Ocean
 - b. Pond
 - c. Lake
 - d. Bath tub
 - e. Kitchen sink
10. The reuptake process is completed by the protein transporters located
 - a. On the membrane of the post-synaptic terminal
 - b. On the membrane of the pre-synaptic terminal
 - c. On the axon hillock
 - d. On the soma

CHAPTER 6

1. Suppression of appetite is influenced by a release of
 - a. Idolatrine
 - b. Serotonin
 - c. Hypocretin
 - d. Orexin
 - e. Gaba
2. _____ is released from the somatic system's axons that establish neuromuscular junctions.
 - a. Histamine
 - b. Orexin
 - c. Hypocretin
 - d. Acetylcholine
3. What stimulus completely opens a chemically-sensitive channel that is associated with the NMDA receptor?
 - a. glutamate
 - b. Sodium ions creating a sufficient depolarization
 - c. Magnesium pump
 - d. AMPA fogging effect
4. Why does picrotoxin lead to convulsions?
 - a. It blocks the GABA_A receptor, preventing an influx of chloride ions
 - b. It blocks the AMPA receptor, preventing the influx of sodium ions
 - c. It stimulates the GABA_A receptor, facilitating the influx of sodium ions
 - d. It blocks the action of antipsychotic medications
5. Endorphins block pain by inhibiting
 - a. Enkephalins
 - b. Endogenous opiates
 - c. Opioids
 - d. Substance P
 - e. Dynorphins
6. When THC binds to the CB1 receptor, the effects are all of the following except:
 - a. Euphoria
 - b. Sedation
 - c. Suppression of appetite
 - d. Distortion of time perception
7. _____ is present in all cells.
 - a. Dopamine
 - b. Serotonin
 - c. Histamine
 - d. Acetylcholine
 - e. Adenosine
8. In the meso-cortical pathway, _____ very significantly influences our ability to pay attention, plan and solve problems.
 - a. Dopamine
 - b. Indolatrine
 - c. Hypocretin
 - d. Dynorphins
 - e. Substance F
9. The sensation of "goose bumps" is influenced by a stimulation of a receptor for
 - a. Dopamine
 - b. Serotonin
 - c. Norepinephrine
 - d. Histamine
 - e. Acetylcholine

CHAPTER 7

1. In the ventral tegmental area, a reduction in the activity of GABA
 - a. Inhibits dopamine producing cells, so less dopamine is produced
 - b. Inhibits glutamate producing cells, so less glutamate is produced
 - c. Activates dopamine producing cells, so more dopamine is produced
 - d. Activates endorphin producing cells, so less dopamine is produced
2. When a chemical attaches to a neurotransmitter's receptor, mimicking that transmitter's activity, that chemical is
 - a. A protagonist
 - b. A third messenger
 - c. An agonist
 - d. An antagonist
3. What prevents acetylcholine from binding to its receptor?
 - a. Curare
 - b. LSD
 - c. Amphetamine
 - d. Ondolamine
4. LSD is structurally very similar to
 - a. Dopamine
 - b. Endorphins
 - c. Enkephalins
 - d. Serotonin
5. Atropine was used by the ancient Greeks because it can
 - a. Enlarge breast size
 - b. Dilate vaginal lips
 - c. Enlarge pupils
 - d. Increase the duration of an orgasm
6. To reduce delusions and hallucinations, antipsychotics
 - a. Prevent dopamine from binding to its receptor
 - b. Stimulate serotonin to bind to its receptor
 - c. Stimulate orexin to bind to hypothalamic receptors
 - d. Prevent norepinephrine from being released from adrenal glands
7. Hormone receptors are always located on the surface of cellular membranes.
 - a. True
 - b. False
8. Hypothalamic releasing and inhibiting hormones act on the anterior pituitary gland.
 - a. True
 - b. False
9. Muscle strength and endurance is influenced by dopamine and epinephrine breaking down glycogen.
 - a. True
 - b. False
10. In the testes, testosterone is converted to estradiol.
 - a. True
 - b. False

CHAPTER 8

1. A taste bud is a _____ of cells
 - a. Bridge
 - b. Cluster
 - c. Star-shaped area
 - d. Rod-shaped collection
2. Gustatory cells are _____ every _____ days.
 - a. Replaced, seven
 - b. Redirected, 365 days
 - c. Turned to neural dust, 57 days
 - d. Phantomized, seven days
3. In the olfactory system, receptors are located on the receptor cell's axons.
 - a. True
 - b. False
4. In the olfactory system, the _____ gives us a more precise and fuller experience of a particular smell.
 - a. Piriform cortex
 - b. Thalamus
 - c. Orbitofrontal cortex
 - d. Cochlea
5. The malleus, incus and stapes
 - a. Are mythical entities with a large auditory cortex, so they can hear everything
 - b. Are divine-like creatures that can amplify infinitesimal sounds
 - c. Are bones in the middle ear that amplify vibrations
 - d. Are sponge-like soft tissues that attenuate (reduce) vibrations
6. The cochlear nucleus is located in the
 - a. Pons
 - b. Medulla
 - c. Spinal cord
 - d. Auditory cortex
7. When the auditory nerve is cut, tinnitus _____
 - a. Decreases
 - b. Amplifies
 - c. Continues
 - d. Disappears
8. What stimulates the receptor cells of the semicircular canals to perform transduction?
 - a. Bending of cilia
 - b. Heating of cilia
 - c. Cooling of cilia
 - d. Gently touching cilia
 - e. Shining light on them
9. What is the cortical product of the vestibular sacs' transduction?
 - a. Sight
 - b. Hearing
 - c. Taste
 - d. Conscious experience of balance
 - e. Smell
10. Transduction in all sensory systems occurs at the level of the
 - a. Cortex
 - b. Pons
 - c. Medulla
 - d. Spinal cord
 - e. Receptor cells

CHAPTER 9

1. Receptor cells for the sense of touch are located in
 - a. Soles of feet
 - b. Hairless skin
 - c. Hairy skin
 - d. Eyelids
 - e. All of the above
2. A homunculus is a subcortical region that contains the map of the body's surface.
 - a. True
 - b. False
3. Pain receptor cells in the face and neck send their axons via sensory spinal nerves.
 - a. True
 - b. False
4. Selective attention manifests itself biologically as weakening of the nervous system responses to something in focus, and strengthening of neuronal responses to aspects of reality that are not in focus.
 - a. True
 - b. False
5. What is a stimulus that activates the thermoreceptors?
 - a. Menthol
 - b. Odorants
 - c. Changes in temperature
 - d. Bending of cilia
 - e. A and C
6. Which one is not a hypothalamic mechanisms to increase body heat?
 - a. Vasoconstriction of blood vessels in the skin
 - b. Shivering
 - c. Increasing metabolic rate
 - d. Resetting metabolic rate to zero
7. Baroreceptors process information about
 - a. Pressure within an organ
 - b. Heat on the surface of an organ
 - c. Illumination of an organ's apex
 - d. Density of neuronal cell bodies
8. Chemoreceptors detect the _____ of oxygen, carbon dioxide and concentration of hydrogen ions.
 - a. Blood levels
 - b. Cytoplasm levels
 - c. Endoplasm levels
 - d. CSR levels
 - e. Golgi matrix levels
9. What stimulus activates a muscle spindle to perform transduction?
 - a. Damage of a muscle
 - b. Contraction of a muscle
 - c. Stretch of a muscle
 - d. Spinning of a muscle
10. An explanation of a blindsight is
 - a. Cones specialize in color vision
 - b. Light hyperpolarizes photoreceptors
 - c. V5 area is overstimulated
 - d. A person's primary visual cortex still has some functioning tissue

CHAPTER 10

1. High frequency electrical pattern of stage 5 sleep signifies
 - a. Cellular decomposition
 - b. Cellular desynchronization
 - c. Apoptosis (cell death)
 - d. Cellular synchronization
2. When the pontomesencephalon is damaged, _____ is likely to occur.
 - a. death
 - b. seizure
 - c. wakefulness
 - d. sleep
3. REM-on neurons are located in the
 - a. medulla
 - b. habenula
 - c. pons
 - d. PAG
 - e. CSF
4. After learning some new information, sleep spindles
 - a. decrease
 - b. become flatter
 - c. increase
 - d. overstimulate the thalamus
5. _____ interrupts REM sleep.
 - a. Ondolamine
 - b. Dopamine
 - c. Adenosine
 - d. Serotonin
 - e. A and C
6. The experience of pleasure associated with receiving a reward is likely located in the
 - a. Cerebellar cortex
 - b. Pons
 - c. Caudate nucleus
 - d. Nucleus accumbens
7. When glutamate binds to the NMDA receptor, what blocks glutamate's activity?
 - a. Sodium ion
 - b. Magnesium ion
 - c. Potassium ion
 - d. Electromagnetism
8. Which of the following is a biological change that facilitates LTP.
 - a. AMPA receptors become more receptive to glutamate
 - b. Dendrites generate more branches and spines
 - c. Dendrites retract AMPA receptors
 - d. A and B
9. Our comprehension of words is primarily processed by
 - a. Fusiform gyrus
 - b. Dirac's area
 - c. Wernicke's area
 - d. Broca's area
10. _____ allows a tone to trigger blinking.
 - a. A nucleus in the cerebellum
 - b. A nucleus in the amygdala
 - c. A nucleus of the hypothalamus
 - d. A nucleus of the PAG

CHAPTER 11

1. The hippocampus, amygdala and the adjacent cortex are collectively called
 - a. Crux Cerebri
 - b. Pontificus Magnum
 - c. Medial temporal lobe
 - d. Center of temporal gravity
2. Strengthening of emotional memories is done by the
 - a. habenula
 - b. amygdala
 - c. homunculus
 - d. geniculate nucleus
3. Short-term memory is primarily processed by the
 - a. Prefrontal cortex
 - b. inferior temporal cortex
 - c. superior temporal cortex
 - d. B and C
4. Confabulation is associated with a deficiency in
 - a. Magnesium ions
 - b. Vitamin B1
 - c. Anorexin
 - d. Indolamin
5. The hippocampus becomes more prone to damage by overstimulation and toxins due to.
 - a. Cortisol
 - b. Dopamine
 - c. Adenosine
 - d. Brief stress
 - e. A and D
6. Brain-derived neurotrophin factor, when present in normal amounts, influences
 - a. Poorer synapsing among neurons
 - b. Shorter survival of neurons
 - c. Demise of the hippocampal neurons
 - d. All of the above
 - e. None of the above
7. Lithium
 - a. Decreases the amount of proteins that protect the brain from cell death
 - b. Decreases the amount of cerebral gray matter
 - c. Stimulates the mania-inducing effects
 - d. All of the above
 - e. None of the above
8. Male gender identity is observed in.
 - a. Turner's syndrome
 - b. M2F
 - c. F2M
 - d. Androgen insensitivity syndrome
 - e. None of the above
9. Nuclei that possibly influence gender identity are the
 - a. Globus palladius and caudate
 - b. Putamen medial and putamen lateral
 - c. Locus coreuleus and accumbens
 - d. BNST and uncinata
10. Panic is stimulated by decreased levels of _____ and increased levels of _____
 - a. Indolamine, serotonin
 - b. Gaba, orexin
 - c. Norepinephrine, epinephrine
 - d. Glutamate, NMDA

CHAPTER 12

1. CT is based on
 - a. MDMA ray technology
 - b. Positron field conduct
 - c. Multiverse theory
 - d. X-ray technology
2. MRI is based on the observation that
 - a. Opponent processing is an imperfect system
 - b. Time dilation is due to relativity
 - c. Time contraction is due to relativity
 - d. Different parts of the brain contain different amounts of hydrogen atoms
3. A method that applies a magnetic field to the brain areas turning them on and off is
 - a. PET
 - b. CT
 - c. TMS
 - d. fMRI
4. Reversible lesions can be accomplished with
 - a. Cryogenic blockades
 - b. Anesthetic drugs
 - c. Endodural blocks
 - d. Aspiration lesions
 - e. A and B
5. Cerebral dialysis
 - a. Is used after the animal is sacrificed
 - b. Is a slicing method
 - c. Measures chemicals in the extracellular space
 - d. is a brainbow method
6. Immunocytochemistry relies on
 - a. Antibodies
 - b. Tripartite synapses
 - f. Astroposis
 - g. Endocytosis
 - h. Prosis
7. The optogenetic method relies on an observation that
 - a. Light-stimulation of certain proteins influences the opening of sodium channels
 - b. Deforming certain proteins influences eight different neuronal scenarios
 - c. Adoption studies are a category of genetic methods
 - d. Twin studies are used to assess the role of heredity
8. Ancient Egyptians attributed a major significance to the brain.
 - a. True
 - b. False
9. Dualism is a position that the mind is an aspect of matter.
 - a. True
 - b. False
10. Trephination
 - a. Dates back to around 10,000 B.C.E.
 - b. Is the oldest type of surgery
 - c. Drills holes in the skull
 - d. All of the above
 - e. None of the above

ANSWERS: CHAPTER 1

- | | | |
|------|------|-------|
| 1. B | 5. B | 9. B |
| 2. D | 6. C | 10. C |
| 3. B | 7. B | |
| 4. A | 8. C | |

ANSWERS: CHAPTER 2

- | | | |
|------|------|-------|
| 1. D | 5. C | 9. B |
| 2. B | 6. A | 10. A |
| 3. B | 7. D | |
| 4. B | 8. B | |

ANSWERS: CHAPTER 3

- | | | |
|------|------|-------|
| 1. C | 5. A | 9. C |
| 2. A | 6. B | 10. B |
| 3. A | 7. D | |
| 4. A | 8. A | |

ANSWERS: CHAPTER 4

- | | | |
|------|------|-------|
| 1. A | 5. D | 9. D |
| 2. A | 6. B | 10. C |
| 3. D | 7. D | |
| 4. A | 8. E | |

ANSWERS: CHAPTER 5

- | | | |
|------|------|-------|
| 1. D | 5. B | 9. C |
| 2. B | 6. B | 10. B |
| 3. E | 7. B | |
| 4. B | 8. A | |

ANSWERS: CHAPTER 6

- | | | |
|------|------|------|
| 1. B | 4. A | 7. B |
| 2. D | 5. D | 8. A |
| 3. B | 6. C | 9. C |

ANSWERS: CHAPTER 7

- | | | |
|------|------|-------|
| 1. C | 5. C | 9. B |
| 2. C | 6. A | 10. A |
| 3. A | 7. B | |
| 4. D | 8. A | |

ANSWERS: CHAPTER 8

- | | | |
|---------------------|------|-------|
| 1. B | 5. C | 9. D |
| 2. A | 6. B | 10. E |
| 3. B (on dendrites) | 7. C | |
| 4. C | 8. A | |

ANSWERS: CHAPTER 9

- | | | |
|------|------|-------|
| 1. E | 5. E | 9. C |
| 2. B | 6. D | 10. D |
| 3. B | 7. A | |
| 4. B | 8. A | |

ANSWERS: CHAPTER 10

- | | | |
|------|------|-------|
| 1. B | 5. D | 9. C |
| 2. D | 6. D | 10. A |
| 3. C | 7. B | |
| 4. C | 8. D | |

ANSWERS: CHAPTER 11

- | | | |
|------|------|-------|
| 1. C | 5. A | 9. D |
| 2. B | 6. E | 10. B |
| 3. A | 7. E | |
| 4. B | 8. C | |

ANSWERS: CHAPTER 12

1. D
2. D
3. C
4. E

5. C
6. A
7. A
8. B

9. B
10. D