

AP Psychology Unit 2 Study Guide: Biology/Consciousness

- Which of the following was a major problem with phrenology?
 - It was "ahead of its time" and no one believed it could be true.
 - The brain is not neatly organized into structures that correspond to our categories of behavior.
 - The brains of humans and animals are much less similar than the theory implied.
 - All of these were problems with phrenology.
- Dr. Hernandez is studying neurotransmitter abnormalities in depressed patients. She would most likely describe herself as a
 - personality psychologist.
 - phrenologist.
 - psychoanalyst.
 - biological psychologist.
- The myelin sheath that is on some neurons
 - increases the speed of neural transmission.
 - slows neural transmission.
 - regulates the release of neurotransmitters
 - prevents positive ions from passing through the membrane.
- In a resting state, the axon is
 - depolarized, with mostly negatively charged ions outside and positively charged ions inside.
 - depolarized, with mostly positively charged ions outside and negatively charged ions inside.
 - polarized, with mostly negatively charged ions outside and positively charged ions inside.
 - polarized, with mostly positively charged ions outside and negatively charged ions inside.
- A strong stimulus can increase the
 - speed of the impulse the neuron fires.
 - intensity of the impulse the neuron fires.
 - number of times the neuron fires.
 - threshold that must be reached before the neuron fires.
- I am a relatively fast-acting chemical messenger that influences movement, learning, attention, and emotion. What am I?
 - dopamine
 - a hormone
 - acetylcholine
 - glutamate
- I am a relatively fast-acting chemical messenger that affects mood, hunger, sleep, and arousal. What am I?
 - acetylcholine
 - dopamine
 - norepinephrine
 - serotonin
- The effect of a drug that is an agonist is to
 - cause the brain to stop producing certain neurotransmitters.
 - mimic a particular neurotransmitter.
 - block a particular neurotransmitter.
 - disrupt a neuron's all-or-none firing pattern.
- Voluntary movements, such as writing with a pencil, are directed by the
 - sympathetic nervous system.
 - somatic nervous system.
 - parasympathetic nervous system.
 - autonomic nervous system.
- Your brother has been taking prescription medicine and experiencing a number of unpleasant side effects, including unusually rapid heartbeat and excessive perspiration. It is likely that the medicine is exaggerating activity in the
 - reticular formation.
 - sympathetic nervous system.
 - parasympathetic nervous system.
 - amygdala.
- In the brain, learning occurs as experience strengthens certain connections in cell work groups called
 - action potentials
 - neural networks
 - endocrine systems
 - dendrites
- You are able to pull your hand quickly away from hot water before pain is felt because
 - movement of the hand is a reflex that involves intervention of the spinal cord only.
 - movement of the hand does not require intervention by the central nervous system.
 - the brain reacts quickly to prevent severe injury.
 - the autonomic division of the peripheral nervous system intervenes to speed contraction of the muscles of the hand.

13. I am a relatively slow-acting (but long-lasting) chemical messenger carried throughout the body by the bloodstream. What am I?

- a. a hormone
- b. a neurotransmitter
- c. acetylcholine
- d. dopamine

14. Epinephrine and norepinephrine are _____ that are released by the _____ gland.

- a. neurotransmitters; pituitary
- b. hormones; pituitary
- c. neurotransmitters; thyroid
- d. hormones; adrenal

15. The technique that uses magnetic fields and radio waves to produce computer images of structures within the brain is called

- a. the EEG.
- b. a lesion.
- c. a PET scan
- d. MRI.

16. In primitive vertebrate animals, the brain primarily regulates _____; in lower mammals, the brain enables _____.

- a. emotion; memory
- b. memory; emotion
- c. survival functions; emotion
- d. reproduction; emotion

17. Dr. Frankenstein made a mistake during neurosurgery on his monster. After the operation, the monster "saw" with his ears and "heard" with his eyes. It is likely that Dr. Frankenstein "rewired" neural connections in the monster's

- a. hypothalamus.
- b. cerebellum.
- c. amygdala.
- d. thalamus.

18. A scientist from another planet wishes to study the simplest brain mechanisms underlying emotion and memory. You recommend that the scientist study the

- a. brainstem of a frog.
- b. limbic system of a dog.
- c. cortex of a monkey.
- d. cortex of a human.

19. Beginning at the front of the brain and moving toward the back of the head, then down the skull and back around to the front, which of the following is the correct order of the cortical regions?

- a. occipital lobe; temporal lobe; parietal lobe; frontal lobe
- b. temporal lobe; frontal lobe; parietal lobe; occipital lobe
- c. frontal lobe; occipital lobe; temporal lobe; parietal lobe
- d. frontal lobe; parietal lobe; occipital lobe; temporal lobe

20. Raccoons have much more precise control of their paws than dogs. You would expect that raccoons have more cortical space dedicated to "paw control" in the _____ of their brains.

- a. frontal lobes
- b. parietal lobes
- c. temporal lobes
- d. occipital lobes

21. The increasing complexity of animals' behavior is accompanied by an

- a. increase in the size of the brainstem.
- b. increase in the depth of the corpus callosum.
- c. increase in the size of the frontal lobes.
- d. increase in the amount of association area.

22. Following a nail gun wound to his head, Jack became more uninhibited, irritable, dishonest, and profane. It is likely that his personality change was the result of injury to his

- a. parietal lobe.
- b. temporal lobe.
- c. occipital lobe.
- d. frontal lobe.

23. The nerve fibers that enable communication between the right and left cerebral hemispheres and that have been severed in split-brain patients form a structure called the

- a. reticular formation.
- b. association areas.
- c. corpus callosum.
- d. parietal lobes.

24. A split-brain patient has a picture of a knife flashed to her left hemisphere and that of a fork to her right hemisphere. She will be able to

- a. identify the fork using her left hand.
- b. identify a knife using her left hand.
- c. identify a knife using either hand.
- d. identify a fork using either hand.

25. Dr. Johnson briefly flashed a picture of a key in the right visual field of a split-brain patient. The patient could probably
- verbally report that a key was seen.
 - write the word key using the left hand.
 - draw a picture of a key using the left hand.
 - do none of these things.
26. At its beginning, psychology focused on the study of
- observable behavior.
 - consciousness.
 - abnormal behavior.
 - all of the above.
27. As defined by the text, consciousness includes which of the following?
- focused attention
 - sleeping
 - hypnosis
 - all of these conditions
28. Selective attention is most accurately defined as
- the focusing of conscious awareness on a particular stimulus.
 - our awareness of ourselves and our environment.
 - failing to see visible objects when our attention is directed elsewhere.
 - separating our conscious awareness to focus on two tasks at the same time.
29. The cluster of brain cells that control the circadian rhythm is the
- amygdala.
 - suprachiasmatic nucleus.
 - NPY.
 - pineal.
30. The sleep-waking cycles of young people who stay up too late typically are _____ hours in duration.
- 23
 - 24
 - 25
 - 26
31. Sleep spindles predominate during which stage of sleep?
- Stage 2
 - Stage 3
 - Stage 4
 - REM sleep
32. Which of the following is characteristic of REM sleep?
- genital arousal
 - increased muscular tension
 - night terrors
 - alpha waves
33. Compared to their counterparts of 80 years ago, teenagers today average _____ sleep each night.
- 2 hours less
 - 4 hours less
 - 1 hour more
 - about the same amount of
34. One effect of sleeping pills is to
- decrease REM sleep.
 - increase REM sleep.
 - decrease Stage 2 sleep.
 - increase Stage 2 sleep.
35. People who heard unusual phrases prior to sleep were awakened each time they began REM sleep. The fact that they remembered less the next morning provides support for the _____ theory of dreaming.
- manifest content
 - physiological
 - information-processing
 - activation-synthesis
36. Which of the following is NOT a theory of dreaming mentioned in the text?
- Dreams facilitate information processing.
 - Dreaming stimulates the developing brain.
 - Dreams result from random neural activity originating in the brainstem.
 - Dreaming is an attempt to escape from social stimulation.
37. Although her eyes are closed, Adele's brain is generating bursts of electrical activity. IT is likely that Adele is
- under the influence of a depressant.
 - under the influence of an opiate.
 - in REM sleep.
 - having a near-death experience.
38. Barry has participated in a sleep study for the last four nights. He was awakened each time he entered REM sleep. Now that the experiment is over, which of the following can be expected to occur?
- Barry will be too tired to sleep, so he'll continue to stay awake.
 - Barry will sleep so deeply for several nights that dreaming will be minimal.
 - There will be an increase in sleep Stages 1-4.
 - There will be an increase in Barry's REM sleep.

39. Of the following individuals, who is likely to be the most hypnotically suggestible?
- Bill, a reality-oriented stockbroker
 - Janice, an actress with rich imagination
 - Megan, a sixth-grader who has trouble focusing her attention on a task
 - Darren, who has never been able to really "get involved" in movies or novels
40. As a form of therapy for relieving problems such as warts, hypnosis is
- ineffective.
 - no more effective than positive suggestions given without hypnosis.
 - highly effective.
 - more effective with adults than children.
41. Those who consider hypnosis a social phenomenon contend that
- hypnosis is an altered state of consciousness.
 - hypnotic phenomena are unique to hypnosis.
 - hypnotized subjects become unresponsive when they are no longer motivated to act as instructed.
 - all of these statements are true.
42. A person who requires increasing amounts of a drug in order to feel its effect is said to have developed
- tolerance.
 - physical dependency.
 - psychological dependency.
 - resistance.
43. Which of the following is classified as a depressant?
- methamphetamine
 - LSD
 - marijuana
 - alcohol
44. Alcohol has the most profound effect on
- the transfer of experiences to long term memory.
 - immediate memory.
 - previously established long term memories.
 - all of these factors.
45. Which of the following preventive measures would have the greatest expectancy?
- eliminating obesity
 - eliminating smoking
 - eliminating sleep deprivation
 - eliminating binge drinking
46. How a particular psychoactive drug affects a person depends on
- the dosage and form in which the drug is taken.
 - the user's expectations and personality.
 - the situation in which the drug is taken.
 - all of these conditions.
47. Which of the following statements concerning marijuana is true?
- the by-products of marijuana are cleared from the body more slowly than are the by-products of alcohol.
 - regular users may need a larger dose of the drug to achieve a high than occasional users would need to get the same effect.
 - Marijuana is as addictive as nicotine or cocaine.
 - even small doses of marijuana hasten the loss of brain cells.
48. Which of the following was NOT cited in the text as evidence that heredity influences alcohol use?
- Children whose parents abuse alcohol have a lower tolerance for multiple alcoholic drinks taken over a short period of time.
 - Boys who are impulsive and fearless by age 6 are more likely to drink as teenagers.
 - Laboratory mice have been selectively bred to prefer alcohol to water.
 - Adopted children are more susceptible if one or both of their biological history if alcohol dependence.
49. Which of the following is usually the most powerful determinant of whether teenagers begin using drugs?
- family strength
 - religiosity
 - school adjustment
 - peer influence
50. Which of the following statements concerning near death experiences is true?
- Fewer than 1 percent of patients who come close to dying report having them.
 - They typically consist of fantastic, mystical imagery.
 - They are more commonly experienced by females than by males.
 - They are more commonly experienced by males than by females.