

TEST #2 STUDY GUIDE: CHAPTER 3 and 4

Chapter 3: Biopsychology

1. Psychological researchers study genetics in order to better understand the _____ that contributes to certain behaviors.
 - A. biology
 - B. neurology
 - C. psychology
 - D. physiology
2. A difference in _____ can explain why one person dies from a disease and another person survives.
 - A. behavior
 - B. evolution
 - C. genetics
 - D. nurture
3. Studying close relatives allows behavioral geneticists to determine _____.
 - A. how behaviors have changed over time
 - B. the contribution of genes or environment to the behavior in the individuals studied
 - C. the relative contributions of genes and environment in a population
 - D. whether genes or environment cause a behavior or trait
4. Human eggs and sperm each contain 23 _____, which are composed of long strands of _____.
 - A. chromosomes; DNA
 - B. chromosomes; genes
 - C. DNA; genes
 - D. genes; DNA
5. Wendy's mother has blue eyes and her father has brown eyes. The allele for brown eye color is dominant (B) to the allele for blue eye color (b), but Wendy has blue eyes. Therefore, Wendy's _____ must be _____ and her father's must be Bb.
 - A. genotype; Bb
 - B. genotype; bb
 - C. phenotype; Bb
 - D. phenotype; bb
6. Polygenic means that most traits are controlled by _____.
 - A. a single gene
 - B. different genes under different circumstances
 - C. different parts of only a few different genes
 - D. more than one gene
7. _____ asserts that our genes set the boundaries within which we can operate, and our environment interacts with our genes to determine where within those boundaries we will fall.
 - A. behavioral genetics
 - B. environmental psychology
 - C. evolutionary psychology
 - D. range of reaction

8. The _____ of a neuron contain _____ that house neurotransmitters, the chemical messengers of the nervous system.
- A. axons; terminal buttons
 - B. dendrites; synaptic vesicles
 - C. terminal buttons; synaptic vesicles
 - D. terminal buttons; transport proteins
9. The myelin sheath consists of a(n) _____.
- A. axon
 - B. glial cell
 - C. soma
 - D. terminal button
10. The space between two neurons is called the _____.
- A. soma
 - B. synapse
 - C. terminal button
 - D. vesicle
11. Agonists bind to _____ and antagonists bind to _____.
- A. receptors; nothing, since they do not bind
 - B. receptors; receptors
 - C. receptors; the cell membrane
 - D. the cell membrane; receptors
12. The _____ is the difference in charge between the intracellular and extracellular space of a neuron.
- A. extracellular fluid
 - B. intracellular fluid
 - C. membrane potential
 - D. resting potential
13. _____ is the electrical signal that typically moves from the cell body down the axon to the axon terminals.
- A. action potential
 - B. depolarization
 - C. hyperpolarization
 - D. threshold of excitation
14. Psychotropic medications are drugs that treat psychiatric symptoms by restoring _____ balance.
- A. emotional
 - B. GABA
 - C. neurotransmitter
 - D. serotonin
15. Which two neurotransmitters have roles in appetite suppression?
- A. dopamine; acetylcholine
 - B. dopamine; norepinephrine
 - C. serotonin; GABA
 - D. serotonin; glutamate

16. _____ is a neurotransmitter with roles in pleasure and pain modulation.
- A. acetylcholine
 - B. beta-endorphin
 - C. GABA
 - D. norepinephrine
17. Selective serotonin reuptake inhibitors (SSRIs) are drugs commonly prescribed for _____.
- A. depression
 - B. obsessive-compulsive disorder
 - C. Parkinson's disease
 - D. schizophrenia
18. The two major divisions of the nervous system are the _____ and _____.
- A. autonomic; somatic nervous systems
 - B. autonomic; sympathetic nervous systems
 - C. central; peripheral nervous systems
 - D. parasympathetic; sympathetic nervous systems
19. The _____ nervous system is responsible for responses such as pupil dilation, increased heart rate, and increased respiration.
- A. autonomic
 - B. parasympathetic
 - C. somatic
 - D. sympathetic
20. The _____ nervous system is responsible for stimulating digestion and causing the bladder to contract.
- A. autonomic
 - B. parasympathetic
 - C. somatic
 - D. sympathetic
21. Which of the following is *not* a part of the fight or flight response?
- A. adrenaline surges into the bloodstream
 - B. heart rate and blood pressure increases
 - C. pupils dilate
 - D. running away
22. The brain contains _____ of interconnected neurons and glia.
- A. billions
 - B. tens of thousands
 - C. thousands
 - D. millions
23. The central nervous system consists of the brain and the _____.
- A. brainstem
 - B. internal organs
 - C. peripheral nerves
 - D. spinal cord

24. Sensory and motor neurons of the _____ nervous system are associated with activities traditionally thought of as conscious or voluntary.

- A. autonomic
- B. parasympathetic
- C. somatic
- D. sympathetic

25. _____ is a state of equilibrium, in which biological conditions (such as body temperature) are maintained at optimal levels.

- A. homeostasis
- B. resting potential
- C. reuptake
- D. synergy

26. _____ is the differences between hemispheres in the areas underlying language function.

- A. brain organization
- B. lateralization
- C. synaptogenesis
- D. Wernicke's area

27. Which of the following higher level processes is *not* a function of the cerebral cortex?

- A. breathing
- B. emotion
- C. memory
- D. reasoning

28. Which of the following areas is located in the frontal lobe of the brain?

- A. Broca's area
- B. hippocampus
- C. thalamus
- D. Wernicke's area

29. The somatosensory cortex is responsible for processing _____.

- A. cognition and emotion
- B. language, such as speech
- C. motor information to body areas, such as arms, legs, and face
- D. temperature, touch, and pain

30. The auditory cortex is located in which lobe of the brain?

- A. frontal
- B. occipital
- C. parietal
- D. temporal

31. Broca's area is located in which lobe of the brain?

- A. frontal
- B. occipital
- C. parietal
- D. temporal

32. Dmitris is in a car accident and his parietal lobe is injured. Which of the following is the most likely behavioral effect of his accident?
- A. blindness
 - B. cannot move his fingers
 - C. no sensation in his legs and feet
 - D. no sensation in his legs and thumbs
33. Rosemary had a stroke about a year ago and now she cannot understand what people are saying to her. This is embarrassing for her, so she responds using vague language and tries to make it appear as though she understands. Which area of Rosemary's brain was likely damaged by the stroke?
- A. Broca's area
 - B. occipital cortex
 - C. prefrontal cortex
 - D. Wernicke's area
34. Which of the following senses is associated with the temporal lobe?
- A. audition
 - B. pain
 - C. touch
 - D. vision
35. Which of the following senses is *not* routed through the thalamus?
- A. audition
 - B. smell
 - C. taste
 - D. vision
36. Which of the following is *not* a forebrain structure?
- A. amygdala
 - B. hippocampus
 - C. pons
 - D. thalamus
37. Elaina has been diagnosed with a small brain tumor. She first went to see her doctor after experiencing symptoms such as feeling very cold, almost fainting, a reduced appetite, and reduced sexual desire. Which of the following structures is her tumor most likely affecting?
- A. Broca's area
 - B. hypothalamus
 - C. substantia nigra
 - D. thalamus
38. The _____ is involved in our experience of emotion and tying emotional meaning to our memories.
- A. amygdala
 - B. corpus callosum
 - C. hypothalamus
 - D. pons

39. The _____ is located deep within the brain, and it includes structures such as the substantia nigra and ventral tegmental area.
- A. forebrain
 - B. hindbrain
 - C. midbrain
 - D. neocortex
40. _____ is a midbrain structure critical to movement.
- A. the medulla
 - B. the pons
 - C. the ventral tegmental area
 - D. Wernicke's area
41. _____ is a neurotransmitter involved in mood, reward, addiction, and motor behavior.
- A. acetylcholine
 - B. dopamine
 - C. glutamate
 - D. serotonin
42. Which of the following is *not* a hindbrain structure?
- A. amygdala
 - B. cerebellum
 - C. medulla
 - D. pons
43. The _____ extends through the hindbrain, midbrain, and forebrain.
- A. cerebellum
 - B. medulla
 - C. pons
 - D. reticular formation
44. Ainsley is participating in a study that aims to determine whether the occipital cortex becomes more active in response to moving versus stationary stimuli. When she arrives at the lab, she ingests a "tracer" and then enters the scanning machine. What type of brain imaging is most likely being conducted in this study?
- A. computerized tomography (CT) scan
 - B. electroencephalograph (EEG)
 - C. magnet resonance imaging (MRI)
 - D. positron emission tomography (PET)
45. The _____ receives messages from muscles, tendons, joints, and structures in our ear to control balance, coordination, movement, and motor skills.
- A. cerebellum
 - B. sensory cortex
 - C. substantia nigra
 - D. ventral tegmental area

46. Jennifer has been depressed for several months, and she decided to take an overdose of sleeping pills. After taking the pills, her breathing rate decreased dramatically, her heart slowed down, and her blood pressure decreased. Which brain structure is the drug acting on?

- A. amygdala
- B. medulla
- C. pons
- D. reticular formation

47. The _____ connects the brain and the spinal cord.

- A. cerebellum
- B. corpus callosum
- C. medulla
- D. pons

48. A _____ scan involves taking a number of x-rays of a particular section of a person's body or brain.

- A. computerized tomography (CT) scan
- B. functional magnetic resonance imaging (fMRI)
- C. magnet resonance imaging (MRI)
- D. positron emission tomography (PET)

49. Which of the following is *not* a disadvantage of PET scanning?

- A. An alternative diagnostic tool is fMRI.
- B. It is unable to pinpoint events in time.
- C. There is a low level of detail.
- D. There is radiation exposure.

50. _____ is a technique often used in studies investigating sleep patterns. Researchers place electrodes at various locations on a person's head in order to record brainwaves.

- A. electroencephalography (EEG)
- B. functional magnetic resonance imaging (fMRI)
- C. magnetic resonance imaging (MRI)
- D. positron emission tomography (PET)

51. The endocrine system consists of a series of glands that produce chemical substances known as _____.

- A. factors
- B. hormones
- C. neurotransmitters
- D. proteins

52. The effects of neurotransmitters tend to be _____, whereas the effects of hormones tend to be _____.

- A. fast; a short duration
- B. fast; long lasting
- C. slow; a short duration
- D. slow; long lasting

53. Which of the following is *not* an endocrine gland?

- A. hypothalamus
- B. ovaries
- C. pineal gland
- D. thyroid

54. During the fight or flight response, which of the following endocrine glands is most likely to increase activity?

- A. adrenal
- B. pancreas
- C. testes
- D. thyroid

55. Which type of chemical messenger do the male gonads secrete?

- A. androgens
- B. dopamine
- C. endorphins
- D. estrogens

56. The _____ gland is often referred to as the master gland of the endocrine system.

- A. adrenal
- B. pituitary
- C. testes
- D. thyroid

57. Diabetes is a(n) _____ disorder because insulin is a _____.

- A. endocrine; hormone
- B. endocrine; neurotransmitter
- C. neurological; hormone
- D. neurological; neurotransmitter

58. Considerable debate occurs regarding the use of anabolic steroid drugs like _____ in professional athletes and bodybuilders.

- A. growth hormone
- B. insulin
- C. testosterone
- D. thyroxine

Chapter 4: States of Consciousness

1. Which state is marked by relatively low levels of physical activity and reduced sensory awareness that is distinct from periods of rest while awake?

- A. circadian rhythm
- B. consciousness
- C. jet lag
- D. sleep

2. Which term describes the tendency to maintain a balance, or optimal level, within a biological system?

- A. homeostasis
- B. insomnia
- C. melatonin
- D. rhythm

3. What hormone does the pineal gland release?

- A. insulin
- B. melatonin
- C. estrogen
- D. testosterone

4. The _____ rhythm is the biological rhythm that occurs over approximately 24 hours.

- A. circadian
- B. homeostatic
- C. meta
- D. pineal

5. The sleep debt is the result of _____.

- A. high levels of sensory awareness, thought, and behavior
- B. insufficient sleep on a chronic basis
- C. the circadian rhythm
- D. travel from one time zone to another

6. Who described the collective unconscious?

- A. Carl Jung
- B. John Hobson
- C. Rosalind Cartwright
- D. Sigmund Freud

7. The _____ wave is characteristic of stage 1 sleep.

- A. alpha
- B. beta
- C. delta
- D. kappa

8. In what stage of sleep do sleep spindles appear?

- A. 1
- B. 2
- C. 3
- D. 4

9. A theta wave is a type of _____.

- A. brain wave associated with critical thinking
- B. brain wave associated with sleep spindles
- C. low frequency, high amplitude brain wave
- D. low frequency, low amplitude brain wave

10. Which theorist described dreams as having manifest and latent content?

- A. Carl Jung
- B. John Hobson
- C. Rosalind Cartwright
- D. Sigmund Freud

11. In a _____ dream, people become aware that they are dreaming and can control the dream's content.

- A. K-complex
- B. lucid
- C. REM
- D. theta wave

12. The hidden meaning of a dream is called the _____ content.

- A. alpha
- B. Freudian
- C. latent
- D. manifest

13. Which researcher believed that dreams simply reflect life events that are important to the dreamer?

- A. Carl Jung
- B. John Hobson
- C. Rosalind Cartwright
- D. Sigmund Freud

14. NREM sleep is a period of sleep _____.

- A. associated with lucid dreaming
- B. outside periods of REM sleep
- C. that always occurs immediately after REM sleep
- D. that overlaps REM sleep

15. Sleepwalking is also referred to as _____.

- A. hypersomnia
- B. night terror
- C. restless leg syndrome
- D. somnambulism

16. _____ is one of a group of sleep disorders in which unwanted, disruptive motor activity and/or experiences during sleep play a role.

- A. insomnia
- B. NREM phase
- C. parasomnia
- D. REM phase

17. Sleep apnea is defined by _____.

- A. a sense of panic in the sufferer often accompanied by screams and attempts to escape
- B. episodes during which a sleeper's breathing stops
- C. uncomfortable sensations in the legs during periods of inactivity or when trying to fall asleep
- D. unwanted, disruptive motor activity and/or experiences during sleep

18. Sleepwalking, night terrors, and restless leg syndrome are all examples of _____.

- A. lucid dreaming
- B. parasomnias
- C. protoconsciousness
- D. somnambulism

19. Which of the following is an example of wakefulness?

- A. Jemma, competing in a marathon
- B. Mercy, unconscious after being hit on the head
- C. Petro, immediately before entering REM sleep
- D. Samuel, sleepwalking in the middle of the night

20. When Brady is hot he sweats. When Brady is cold, he gets goose bumps on his skin so he will warm up more quickly. This is an example of how the body tries to achieve _____.

- A. circadian rhythms
- B. heterostasis
- C. homeostasis
- D. internal-external stimulus

21. Feeling pain, hunger, thirst, sleepiness, and being aware of our thoughts and emotions are all examples of _____ stimuli.

- A. external
- B. hypnotic
- C. internal
- D. psychoactive

22. Most people are awake during the day and asleep at night because their _____ cycles are aligned with the outside world.

- A. circadian
- B. external
- C. melatonin
- D. rhythm

23. The sleep cycle is an example of a(n) _____ rhythm.

- A. circadian
- B. external
- C. protoconscious
- D. stimulus

24. Hamid is a 9-1-1 operator. When the blizzard began, he was told he would have to stay and work three extra shifts to cover for coworkers who were not able to drive to work through the storm. After 32 hours of exhausting work, he makes it home and discovers he is unable to fall asleep no matter how hard he tries. Hamid may be experiencing _____.

- A. electroencephalography
- B. K-complex stimulation
- C. lucid dreaming
- D. sleep rebound

25. Mona lives in the Bronx. She takes an overnight flight to California to visit with family for a month; when she arrives she is fatigued, sluggish, and irritable. For the next week or so she has trouble sleeping. Mona is probably suffering from _____.

- A. external circadian
- B. jet lag
- C. night terrors
- D. parasomnia

26. Victoria has accumulated a large sleep debt. This means that she _____.

- A. falls asleep in the middle of the day
- B. sleeps more than 12 hours in a 24-hour period
- C. suffers from chronic sleep deprivation
- D. suffers from insomnia due to large amounts of debt

27. Mohammed is sleeping. His eyelids are quivering because his eyes are darting around. Mohammed is probably experiencing _____ sleep.

- A. night terrors
- B. non-REM
- C. NREM
- D. REM

28. Nancy is aware that she is dreaming when she has a nightmare, so she concentrates and changes her dream from bad to good. This is a good example of _____ dreaming.

- A. external
- B. internal
- C. lucid
- D. stage 1

29. Which of the following is a symptom of REM sleep behavior disorder (RBD)?

- A. crying while asleep
- B. kicking and punching while asleep
- C. snoring while asleep
- D. talking while asleep

30. Uncomfortable sensations in the leg during periods of inactivity are a symptom of _____ leg syndrome.

- A. agitated
- B. nervous
- C. REM sleep behavior disorder (RBD)
- D. restless

31. Tayla smokes marijuana. At first, just a few inhalations were enough to cloud her mind. Over time, she needs to smoke more and more to achieve the same affect. This is an example of _____.

- A. physical dependence
- B. psychological dependence
- C. tolerance
- D. withdrawal

32. Cataplexy is a symptom associated with _____.
- A. insomnia
 - B. narcolepsy
 - C. night terrors
 - D. restless leg syndrome
33. Physical dependence on a drug is indicated by the user experiencing _____ as a result of discontinuing use of the drug.
- A. a return to normal performance levels
 - B. changes in normal bodily function
 - C. psychological distress
 - D. psychological stress
34. Alcohol is considered a _____ because it tends to suppress central nervous system activity.
- A. antipsychotic
 - B. depressant
 - C. hallucinogen
 - D. stimulant
35. Individuals undergoing hypnosis _____.
- A. can be coerced into harming themselves and others by a skilled hypnotist
 - B. report no memory of the events that occurred during the period they were hypnotized
 - C. usually do not have clear memories of the hypnotic experience and are not in control of their own behaviors
 - D. usually have clear memories of the hypnotic experience and are in control of their own behaviors
36. Samek was driving to work when he suddenly felt paralyzed and couldn't resist falling asleep. Samek may have _____.
- A. a stroke
 - B. damage to his K-complex
 - C. narcolepsy
 - D. REM sleep behavior disorder (RBD)
37. Tariq depends on cigarettes to relieve his stress, though he smokes so infrequently that he experiences no significant, noticeable physical symptoms when he is not smoking. What does this exemplify?
- A. physical dependence
 - B. psychological dependence
 - C. tolerance
 - D. withdrawal
38. While _____ is generally achieved through the interaction of a therapist and the person being treated, an individual can perform _____ alone.
- A. hypnosis; meditation
 - B. meditation; hypnosis
 - C. meditation; somnambulism
 - D. somnambulism; meditation

39. Cocaine is considered a _____ drug because it tends to increase overall levels of neural activity.

- A. antipsychotic
- B. depressant
- C. hallucinogen
- D. stimulant

40. Which of the following is an example of a synthetic opioid?

- A. coffee
- B. methadone
- C. methamphetamine
- D. nicotine

41. Morphine is considered a(n) _____ drug because it decreases pain.

- A. antipsychotic
- B. hallucinogen
- C. opioid
- D. stimulant

42. Which of the following would be experienced during a euphoric high?

- A. feelings of despair
- B. feelings of intense elation and pleasure
- C. intense tactile sensation
- D. time distortion

43. Mescaline is considered a _____ drug because it results in profound alterations in sensory and perceptual experiences.

- A. depressant
- B. hallucinogenic
- C. opioid
- D. stimulant

44. Melatonin release is stimulated by _____ and inhibited by _____.

- A. darkness; light
- B. light; darkness
- C. pulsing light; steady light
- D. twilight; gloom

45. How many of the five stages of sleep are considered NREM sleep?

- A. one
- B. two
- C. three
- D. four

46. People often report that they have not been asleep if they are awoken during stage _____ sleep.

- A. 1
- B. 2
- C. 3
- D. 4

47. A state of _____, as shown by EEG recordings of new practitioners, is not an altered state of consciousness; however, patterns of brain waves exhibited by expert practitioners may represent a unique state of consciousness.

- A. cognizance
- B. insomnia
- C. meditation
- D. narcolepsy

48. Shyla experiences a long delay between the time that she goes to bed and the time that she actually falls asleep. In addition, she wakes up several times during the night and has difficulty getting back to sleep. To diagnose Shyla with insomnia, it is necessary that she experiences these symptoms_____.

- A. at least three nights a week for one month
- B. even after taking medication
- C. every time she attempts to sleep
- D. three nights in a row

49. Which of the following is *not* a risk factor for SIDS?

- A. above average birth weight
- B. hyperthermia
- C. premature birth
- D. smoking in the home

50. Crack is considered more addictive than cocaine because it is _____.

- A. cheaper, so people can afford more of it
- B. easier to get, so people can take more at once
- C. frequently smoked in combination with pharmaceuticals
- D. smokable, so it reaches the brain more quickly

51. Why can amphetamines be used to treat ADHD in children?

- A. They decrease neurotransmitter activity within certain areas of the brain associated with hyperactivity.
- B. They decrease neurotransmitter activity within certain areas of the brain associated with impulse control.
- C. They increase neurotransmitter activity within certain areas of the brain associated with emotions.
- D. They increase neurotransmitter activity within certain areas of the brain associated with impulse control.

52. Which of the following statements about rotating shift work is *false*?

- A. It can result in sleeping problems.
- B. It refers to a work schedule that changes from early to late on a regular basis.
- C. It renders the maintenance of a normal circadian cycle difficult.
- D. It will probably lead to substance abuse.

53. Xi needs to stay awake another hour to study for his English final, so he drinks several cups of cola. When he's done studying, he finds that he can't sleep even though he wants to, he feels agitated, his muscles twitch, his heartbeat is irregular, and he feels nauseated. What is causing Xi to feel this way?

- A. caffeine
- B. insomnia
- C. narcolepsy
- D. sugar