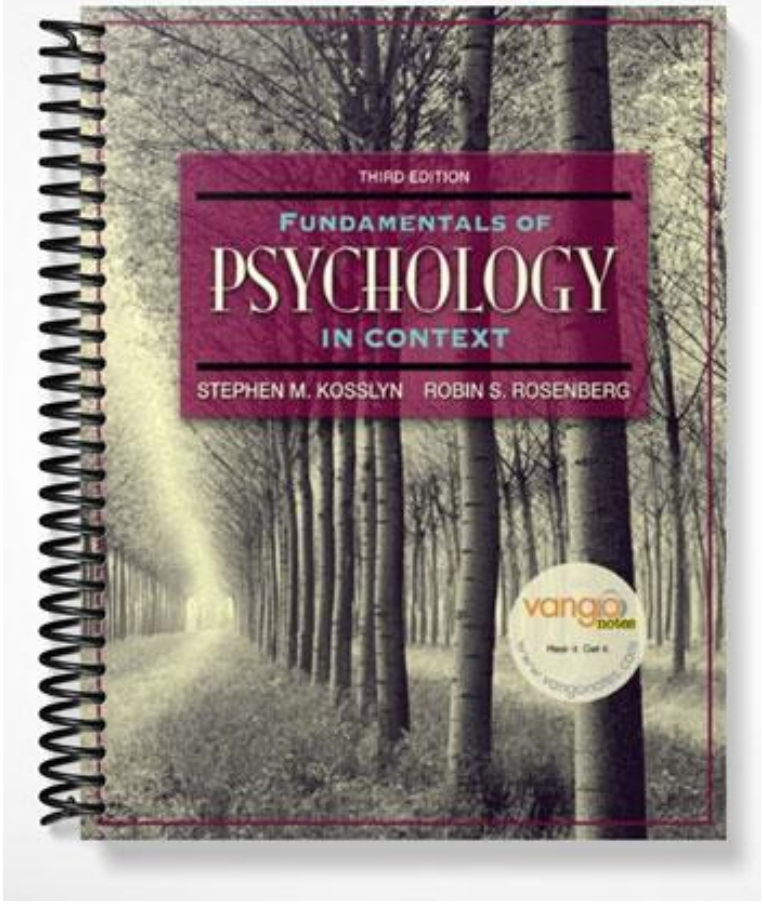
TEST BANK


THIRD EDITION
FUNDAMENTALS OF
PSYCHOLOGY
IN CONTEXT
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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The brain is often considered to be the _____ organ. 1) _____
A) sensory
B) intellectual
C) psychological
D) mental
E) smallest
Answer: C

2) A(n) _____ is a brain cell. 2) _____
A) axon B) synapse C) dendrite D) ion E) neuron
Answer: E

3) The three types of neurons are _____. 3) _____
A) cell bodies, cell membranes, and ions
B) sensory neurons, motor neurons, and interneurons
C) axons, dendrites, and glial cells
D) receptor neurons, excitation neurons, and intraneurons
E) sensory neurons, excitation neurons, and intraneurons
Answer: B

4) Dendrite is to axon as: 4) _____
A) receive is to send.
B) send is to regulate.
C) send is to receive.
D) receive is to release.
E) regulate is to send.
Answer: A

5) Which of the following best represents the order in which a neuron receives and transmits information? 5) _____
A) terminal buttons, dendrites, cell body, axon
B) axon, cell body, dendrites, terminal buttons
C) cell body, dendrites, terminal buttons, axon
D) dendrites, axon, cell body, terminal buttons
E) dendrites, cell body, axon, terminal buttons
Answer: E

6) The negative charge that a neuron at rest maintains is due to more negatively charged ions referred to as: 6) _____
A) calcium ions.
B) potassium ions.
C) sodium ions.
D) anions.
E) cations.
Answer: D

7) The term "fire" when referring to neural transmission indicates that a neuron: 7) _____
A) has released chemicals from the terminal buttons.
B) has become less positive in charge.
C) is unable to transmit information to another neuron.

D) is able to receive information from another neuron.
E) has become more negative in charge.
Answer: A

8) All of the following are true about 'myelin' EXCEPT: 8) _____
A) It slows down neuronal operations.
B) It expedites neural communication.
C) It covers axons.
D) It's a fatty substance.
E) It influences how nerve impulses travel down the axon.
Answer: A

9) The precise location where communication between neurons occurs is the _____. 9) _____
A) synaptic cleft
B) neurotransmitter
C) myelin sheath
D) neuromodulator
E) terminal button
Answer: A

10) Communication between neurotransmitters and neuromodulators is explained by your text's authors through the example of: 10) _____
A) sending and then receiving an e-mail message.
B) speaking to someone with the use of a cell phone.
C) using a pair of tin cans with a string between them as a walkie-talkie.
D) inhaling cigarette second-hand smoke in a restaurant.
E) a child trying to pin the tail on the donkey while blindfolded.
Answer: C

11) Endogenous cannabinoids are neuromodulators that: 11) _____
A) work by subtly dampening down sending neurons.
B) influence the activity of the receiving neuron.
C) influence visual processing of information.
D) are primarily released at terminal buttons.
E) affect imprecise locations on neurons.
Answer: A

12) A receptor is a site that can be found: 12) _____
A) only on cell bodies.
B) on dendrites or cell bodies.
C) only on axons.
D) on axons or cell bodies.
E) only on dendrites.
Answer: B

13) A(n) _____ is a site on the dendrite or cell body where a messenger molecule attaches itself. 13) _____
A) antagonist
B) neuromodulator
C) agonist
D) endogenous cannabinoid
E) receptor
Answer: E

14) Reuptake refers to _____. 14) _____
A) the process by which the surplus neurotransmitter is reabsorbed back into the sending neuron
B) an automatic response to an event
C) a chemical that mimics the effects of a neurotransmitter
D) an area where neurotransmitters or neuromodulators attach themselves
E) a chemical that blocks the effect of a neurotransmitter
Answer: A

15) Agonist is to antagonist as: 15) _____
A) neuromodulator is to neurotransmitter.
B) reuptake is to receptor.
C) disease is to healthy.
D) block is to mimic.
E) mimic is to block.
Answer: E

16) Jill has recently been prescribed L-Dopa to treat her condition. Jill most likely has which of the following? 16) _____
A) Alzheimer's Disease
B) Generalized Anxiety Disorder
C) Major Depression
D) Parkinson's Disease
E) Mild Depression
Answer: D

17) There are approximately how many glial cells in the brain relative to the number of neurons? 17) _____
A) about ten times more glial cells relative to the number of neurons
B) approximately the same number of glial cells relative to the number of neurons
C) half as many glial cells relative to the number of neurons
D) about twice as many glial cells relative to the number of neurons
E) about five times more glial cells relative to the number of neurons
Answer: A

18) The peripheral nervous system consists of the: 18) _____
A) spinal cord and the sensory-somatic system.
B) brain and the sensory-somatic nervous system.
C) brain and the autonomic nervous system.
D) autonomic nervous system and the sensory-somatic nervous system.
E) brain and the spinal cord.
Answer: D

19) The autonomic nervous system can be further subdivided into: 19) _____
A) the peripheral and semi-peripheral systems.
B) the sympathetic and sensory-somatic systems.
C) the central and peripheral systems.
D) the sympathetic and parasympathetic systems.
E) the sympathetic and peripheral systems.
Answer: D

20) All of the following are associated with the sympathetic branch of the autonomic nervous system EX CEPT:

20) _____
A) increased perspiration.
B) reduced heart rate.
C) relaxed bladder.
D) dilation of pupils.
E) decreased salivation.
Answer: B

21) The parasympathetic branch of the autonomic nervous system is responsible for all of the following EXCEPT: 21) _____
A) contraction of pupils.
B) increased salivation.
C) decreased stomach activity.
D) reduced heart rate.
E) bladder contraction.
Answer: C

22) The sensory-somatic nervous system is one branch of the _____ nervous system. 22) _____
A) parasympathetic
B) autonomic
C) central
D) sympathetic
E) peripheral
Answer: E

23) The central nervous system is defined as: 23) _____
A) the brain and the skeletal system.
B) the spinal cord and the skeletal system.
C) the spinal column and the spinal cord.
D) the brain and the spinal cord.
E) the brain and the skull.
Answer: D

24) How many pairs of spinal nerves stem from the spinal cord? 24) _____
A) 30 B) 31 C) 32 D) 33 E) 34
Answer: B

25) A reflex involves which of the following type(s) of neurons? 25) _____
A) motor
B) interneurons
C) sensory
D) sensory and motor
E) sensory, interneurons, and motor
Answer: E

26) When a brain surgeon does surgery, the first structure he or she will see under the skull will be the _____. 26) _____
A) sulcus
B) corpus callosum
C) ventricle
D) gyrus
E) meninges

Answer: E

27) The brain has all of the following lobes EXCEPT _____. 27) _____
A) temporal B) occipital C) cerebral D) frontal E) parietal
Answer: C

28) Your occipital lobe is located _____. 28) _____
A) in between the cerebral hemispheres
B) immediately behind the forehead
C) below the temples
D) under the corpus callosum
E) at the back of the brain
Answer: E

29) The two halves of the brain are connected by the _____. 29) _____
A) cerebral cortex
B) cerebral hemisphere
C) sulcus
D) corpus callosum
E) gyrus
Answer: D

30) The chief function of the occipital lobe is concerned with _____. 30) _____
A) memory
B) hearing
C) motor control
D) vision
E) attention
Answer: D

31) Suzie Q. was ice skating when out of nowhere came a cat running right in front of her causing to fall. She landed on the back of her head at which point she saw "stars." Which lobe would have been most affected by this fall given what she saw? 31) _____
A) parietal B) temporal C) cerebral D) occipital E) frontal
Answer: D

32) The temporal lobe is involved in all of the following EXCEPT: 32) _____
A) storing visual information
B) comprehension of language
C) recognizing various visual properties such as motion
D) processing of sound.
E) storing new information into memory
Answer: C

33) Bobby B. was ice skating when out of nowhere came a cat running right in front of her causing her to fall. When she fell, she landed on the side of her head. Shortly afterwards, Suzie complained that she could not understand what people were saying to her. Which lobe would have been most affected by this fall given what she experienced? 33) _____
A) temporal B) parietal C) occipital D) frontal E) cerebral
Answer: A

34) Suppose Al is trying to recall where he left his keys, Hal is trying to recall how to drive to his frie nd's

house, and Sal is trying to determine what's over his left shoulder. Who is using their parietal lobe in these situations?

34) ___ ___

A) Al
B) Sal
C) Hal
D) All of them are using their parietal lobe.
E) None of them are using their parietal lobe.
Answer: D

35) The parietal lobes are involved in all of the following EXCEPT _____. 35) _____

A) spatial location
B) attention
C) doing arithmetic
D) motor control
E) hearing
Answer: E

36) The _____ is located right behind the central sulcus. 36) _____

A) motor strip
B) forebrain
C) gyrus
D) somatosensory strip
E) frontal lobe
Answer: D

37) The frontal lobes are involved in all of the following EXCEPT: 37) _____

A) speech.
B) search of specific memories.
C) comprehension.
D) emotions.
E) reasoning.
Answer: C

38) Joey was ice skating when out of nowhere came a cat running right in front of her causing her to trip and fall. When she fell, she partially landed on the front side of her head near her forehead. Shortly afterwards, Suzie exhibited symptoms similar to that of Phineas Gage. Which lobe would have been most affected by this fall? 38) _____

A) temporal B) parietal C) occipital D) cerebral E) frontal
Answer: E

39) Since Norma is a split-brain patient, we can infer that she likely has a history of _____. 39) _____
A) anosognosia
B) severe epilepsy
C) visual neglect
D) frontal lobe damage
E) mental illness
Answer: B

40) Pat has decided to undergo surgery to treat her severe epilepsy. Consequently, her doctors will sever her _____. 40) _____
A) spinal cord
B) corpus callosum
C) subcortical structure
D) cerebral cortex
E) parietal lobe
Answer: B

41) In trying to determine whether the left hemisphere constructs stories to "fill in gaps" in its knowledge, Gazzaniga and LeDoux (1979) used all of the following techniques in their case study EXCEPT _____. 41) _____
A) showing several other pictures and choosing which of them was implied by the stimulus
B) presenting a picture of a snow scene and a chicken's claw simultaneously to the right hemisphere
C) having the patient use his right hand to select a picture of a chicken, and his left hand to select a picture of a shovel
D) asking the patient what he had seen and why he had made the selections
E) Actually, all of the above techniques were used in this study.
Answer: B

42) The study by Gazzaniga and LeDoux (1979) reviewed in your text was conducted to address which of the following general issues? 42) _____
A) the effect of severing temporal lobe on the corpus callosum
B) the role of the frontal lobe in auditory processing
C) the role of the parietal lobe in visual processing
D) the practical effects of the division of the brain into two hemispheres
E) the difference between right- and left-handedness in processing spatial information
Answer: D

43) Traditionally, many have made the analogy that the left brain is to the right brain as _____. 43) _____
A) analytical is to verbal
B) verbal is to analytical
C) analytical is to perceptual
D) intuitive is to analytical
E) intuitive is to perceptual
Answer: C

44) The forebrain consists of _____. 44) _____
A) the limbic system
B) the cortex

C) the basal ganglia
D) the thalamus
E) all of the above structures
Answer: E

45) Subcortical brain structures are primarily located: 45) _____
A) directly behind cortical brain structures.
B) deep beneath the cortex.
C) directly above cortical brain structures.
D) within the the left hemisphere near cortical brain structures.
E) within the right hemisphere near cortical brain structures.
Answer: B

46) The thalamus is often likened to a(n) _____. 46) _____
A) fork-in-the-road
B) speedway
C) airline hub
D) bus stop
E) subway station
Answer: C

47) The hypothalamus is located _____ the thalamus. 47) _____
A) behind
B) underneath
C) above
D) to the right of
E) to the left of
Answer: B

48) The hypothalamus is associated with all of the following functions EXCEPT: 48) _____
A) regulating hormones.
B) drinking.
C) eating.
D) governing sexual behavior.
E) allowing new information to be stored in memory.
Answer: E

49) The subcortical structure that is key in allowing us to store new memories is called the _____. 49) _____
A) hippocampus
B) medulla
C) frontal lobe
D) pons
E) amygdala
Answer: A

50) After a blow to the head, John (like the patient "H.M.")had great difficulty learning new facts indicating potential damage to the _____. 50) _____
A) thalamus
B) hypothalamus
C) amygdala
D) basal ganglia
E) hippocampus

Answer: E

51) The amygdala plays a particularly important role in the emotions of _____. 51) _____
A) surprise and disgust
B) grief and love
C) happiness and sadness
D) anger and fear
E) jealousy and pride
Answer: D

52) Which of the following subcortical structures plays a role in the formation of a habit? 52) _____
A) amygdala
B) hypothalamus
C) thalamus
D) hippocampus
E) basal ganglia
Answer: E

53) The set of neural structures at the base of the brain that transmit and receive information from the spinal cord are collectively referred to as the _____. 53) _____
A) midbrain.
B) limbic system.
C) hindbrain.
D) brain stem.
E) forebrain.
Answer: D

54) All of the following subcortical structures are part of the brainstem EXCEPT the: 54) _____
A) descending part of reticular formation.
B) ascending part of reticular activating system.
C) amygdala.
D) medulla.
E) pons.
Answer: C

55) If a person is described as "punch-drunk," then it is quite likely that he or she is _____. 55) _____
A) an aging prizefighter with damage to the cerebellum.
B) suffering the effects of chronic alcohol consumption
C) suffering from sleep deprivation due to damage to the pons
D) a teenager with raging hormones
E) delirious due to addiction furthered by the nucleus accumbens
Answer: A

56) If your _____ were damaged, you might walk oddly and have trouble standing normally. 56) _____
A) reticular formation
B) medulla
C) amygdala
D) cerebellum
E) pons
Answer: D

57) According to the authors, the brain has total of _____ mechanisms that allow the brain to communica

te with body. 57) ___ ___

A) two B) three C) four D) five E) six

Answer: C

58) Joe is very stressed over an upcoming exam. Consequently, his adrenal glands will probably produce _____. 58) _____

A) less estrogen
B) more testosterone
C) less cortisol
D) less testosterone
E) more cortisol

Answer: E

59) The idea that the pituitary gland is the "master gland": 59) _____

A) is completely accurate and inappropriate.
B) is a matter of debate since many other researchers refer to the adrenal gland as the "master gland."
C) has never been investigated by researchers.
D) is completely inaccurate since it doesn't control any other glands or related structures.
E) is true; yet, it is still controlled by the brain.

Answer: E

60) Which of the following groups of structures work together to help our bodies fight disease? 60) _____

A) hippocampus, hypothalamus, and pituitary gland
B) hypothalamus, medulla, and adrenal glands
C) hippocampus, medulla, and pituitary gland
D) hypothalamus, pituitary gland, and adrenal glands
E) basal ganglia, adrenal glands, and pituitary gland

Answer: D

61) The hypothalamic-pituitary-adrenal (HPA) axis may be activated by all of the following EXCEPT: 61) _____

A) psychological stress.
B) occipital lobe.
C) viruses.
D) bacteria.
E) pain.

Answer: B

62) Research investigating the role of the brain in processing music suggests that: 62) _____

A) the left hemisphere houses the "music center."
B) the "music center" is housed within the right parietal lobe.
C) there is no single "music center" in the brain.
D) the "music center" is housed within the left parietal lobe.
E) the right hemisphere houses the "music center."

Answer: C

63) An example of how music affects events at the level of the group is the finding that: 63) _____

A) music can reduce arousal.
B) music activates regions in both hemispheres.
C) music therapy can improve people's emotional state and daily functioning.

D) music can improve one's mood.
E) playing music can relax people.
Answer: C

64) Imagine that you are motivated to learn how to play the guitar by listening to others which in turn results in changes in your brain. This scenario best illustrates which of the following levels of analysis? 64) _____
A) brain
B) group
C) brain, person
D) person
E) brain, person, and group
Answer: E

65) Evidence indicating the localization of function in the brain was first introduced via _____. 65) _____
A) correlational studies
B) natural experiments
C) surveys
D) naturalistic observation
E) prototype experiments
Answer: B

66) If someone has suffered a stroke, then one can infer that the affected region of brain tissue has: 66) _____
A) failed to receive enough oxygen to sustain the neurons in the region.
B) resulted due to a clot forming in a blood vessel.
C) resulted due to a heart attack.
D) temporarily become dormant.
E) A and B
Answer: E

67) Electroencephalograph is to electroencephalogram as _____. 67) _____
A) brain is to wave
B) recording is to machine
C) sleep is to awake
D) machine is to recording
E) awake is to sleep
Answer: D

68) A microelectrode would be placed into a human's brain _____. 68) _____
A) only after death
B) while an EEG is administered
C) absolutely under no conditions
D) only in order to treat mental illness
E) during a single-cell recording
Answer: E

69) _____ , or scanning techniques, yield information concerning brain structure and function. 69) _____
A) Electroencephalogram
B) Single-cell recording
C) Neuroimaging
D) Electroencephalograph
E) Magnetoencephalograpy

Answer: C

70) If Mindy's doctor has taken a three-dimensional image of her brain using X-rays, then she has likely had a(n) _____. 70) _____
A) EEG B) CT C) PET D) MRI E) TMS
Answer: B

71) Which of the following allows for the visualization of brain structure? 71) _____
A) MRI B) CT C) PET D) fMRI E) A and B
Answer: E

72) Functional magnetic resonance imaging detects where more brain activity is occurring by: 72) _____
A) tracking the path of radiation.
B) simply having a sharp image of the brain.
C) detecting the amount of oxygen that is being brought to a particular place in the brain.
D) where atoms are pulling apart.
E) observing electrodes.
Answer: C

73) All of the following allows for the visualization of brain function EXCEPT: 73) _____
A) CT. B) MRI. C) PET. D) fMRI. E) A and B
Answer: E

74) _____ is a method in which researchers stimulate the brain by putting a wire coil on a person's head and discharging a large current through the coil, thus creating a magnetic field. 74) _____
A) fMRI B) MRI C) PET D) CT E) TMS
Answer: E

75) Which of the following ideas is key to Mendelian inheritance? 75) _____
A) In some cases, one of the elements dominates the other, and that is the one whose effect is apparent.
B) For each trait, an offspring inherits an "element" from each parent.
C) Those who are strongest and most beautiful tend to pass on superior genes.
D) A and B
E) A, B, and C
Answer: D

76) Unlike Mendelian inheritance, complex inheritance _____. 76) _____
A) describes the effects of individual elements of inheritance
B) is unrelated to your genotype
C) is unrelated to your phenotype
D) primarily helps to explain why birth defects occur
E) considers the joint combinations of genes working together
Answer: E

77) Genes affect _____. 77) _____
A) the brain only
B) traits, the brain, and behavior
C) traits only
D) traits and the brain only
E) traits and behavior only
Answer: B

78) According to your text, researchers have been able to manipulate genes of fruit flies such that _____ behavior results. 78) _____
A) homosexual
B) aggressive
C) disoriented
D) altruistic
E) passive
Answer: A

79) Pruning is to plasticity as _____. 79) _____
A) flexible is to inflexible
B) brain is to neuron
C) experience is to gene
D) eliminate is to change
E) control is to wasted
Answer: D

80) Plasticity is most evident in all of the following circumstances EXCEPT _____. 80) _____
A) when we learn something new or store new information
B) when the body changes
C) as compensation after brain damage
D) when we are trying to undo previous pruning
E) during infancy and childhood
Answer: D

81) Which of the following statements is TRUE? 81) _____
A) Genes are destiny.
B) Genes are not simply time bombs that are set at birth and ready to explode at the proper hour.
C) The reason why some people go bald is unrelated to genes that are working throughout your life.
D) Interactions with the environment rarely alter the structure and function of the brain.
E) None of the above statements are true.
Answer: B

82) An individual's genes: 82) _____
A) lead to new connections among cells during the learning of new material.
B) regulate the flow of neuromodulators.
C) are constantly being turned on and off as needed.
D) produce specific substances as needed.
E) Will do all of the above.
Answer: E

83) To say that both genes and environment are important _____. 83) _____
A) is partially correct depending on the given person and situation
B) is true, yet it fails to clarify that they are different aspects of a single system
C) is true, yet it fails to clarify that they really should be considered as separate factors
D) is completely inaccurate
E) is completely accurate
Answer: B

84) An evocative interaction can be construed as similar to an active interaction in the sense that both show _____. 84) _____
A) ways that the genes and environment interact
B) what occurs when a parents' or sibling's tendencies produce an environment received by a child
C) the importance of studying the separate influence of genes and the environment
D) the effects of when people choose to put themselves in specific situation or to avoid others
E) how genetically influenced characteristics draw out behaviors from others
Answer: A

85) The term "heritability" is an unfortunate term in the sense that _____. 85) _____
A) it makes the erroneous assumption that genes and the environment are separate factors
B) it is excessively tied to cultural factors
C) it does not indicate the amount of a characteristic or trait that is inherited
D) it tells us nothing about how much of the variability in a characteristic in a population is due to genetics
E) it is quite limited in the number of characteristics it can inform us about
Answer: C

86) The amount of genes shared by dizygotic twins is _____ as monozygotic twins and _____ siblings, respectively. 86) _____
A) half as much; half as much as
B) half as much; one-fourth as much as
C) half as much; equal to
D) twice as much; half as much as
E) twice as much; equal to
Answer: C

87) Darwin's famous term "survival of the fittest" really centers on those who are _____. 87) _____
A) most intelligent
B) successfully reproducing
C) most attractive
D) physically strongest
E) genetically superior
Answer: B

88) The general idea behind the evolution of species _____. 88) _____
A) is that only those who are the strongest will survive
B) is that the physiology of all species is constantly changing
C) has not been identified yet
D) is that genes that lead an organism to have offspring, who have still more offspring, stay around
E) is that it is key to succeed in life
Answer: D

89) The fact that sickle-cell anemia, which is common among African-Americans, is an unfortunate side-effect of protection from malaria illustrates that _____. 89) _____
A) sometimes characteristics piggyback on other characteristics
B) natural selection produces such reactions
C) sometimes characteristics appear because the original adaptation can be put to good use
D) Darwin's ideas were wrong
E) genetic accidents truly are exceptionally rare

Answer: A

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

90) Most of the neurons in the brain are referred to as 'interneurons.' 90) _____
Answer: True False

91) There are four types of neurons. 91) _____
Answer: True False

92) Since Greg's hands shake, his limbs often seem frozen in position, and he moves sluggishly with a stooped posture and shuffling walk, he likely has Parkinson's disease. 92) _____
Answer: True False

93) Your central nervous system consists of three basic structures. 93) _____
Answer: True False

94) The central nervous system is only concerned with getting information into and out of the brain. 94) _____
Answer: True False

95) Since Jane has a toothache, she tries to make a conscious effort to stay away from hard foods. This would be an example of a reflex. 95) _____
Answer: True False

96) Since the point of reflexes is to get things done in a hurry, the sensory neurons are directly connected to motor neurons. 96) _____
Answer: True False

97) The somatosensory strip is located in the parietal lobe. 97) _____
Answer: True False

98) Moving your finger activates the somatosensory strip. 98) _____
Answer: True False

99) The thalamus is considered a subcortical structure. 99) _____
Answer: True False

100) A person with Parkinson's disease will most likely have an abnormal amygdala. 100) _____
Answer: True False

101) Experiencing a traumatic event will likely result in the release of cortisol. 101) _____
Answer: True False

102) The adrenal gland is part of the "HPA" axis. 102) _____
Answer: True False

103) Events at different levels of analysis interact when it comes to making music. 103) _____
Answer: True False

104) Natural experiments are accidents in which people suffered damage to the brain. 104) _____
Answer: True False

105) Microelectrodes are used in the technique referred to as single-cell recording. 105) _____

Answer: True False

106) A MRI would allow for one to assess brain function. 106) _____
Answer: True False

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

107) List the three types of neurons. Which is most abundant in the brain? 107) _____
Answer: Sensory, Motor, and Interneurons. Interneurons outnumber the other two types.

108) List in order of reception to release of chemicals four major parts of the neuron. 108) _____
Answer: dendrites, cell body, axon, terminal buttons

109) List the major divisions of the nervous system followed by further subdivisions of each major division. You should end up with a total of six parts. 109) _____
Answer: The nervous system is divided into the central and peripheral nervous systems. The peripheral nervous system is further divided into the sensory-somatic and autonomic nervous systems. The autonomic nervous system is then divided into the parasympathetic and sympathetic divisions.

110) If Sam is blind, then he likely has damage to which lobe? 110) _____
Answer: the occipital lobe

111) Briefly state where the frontal lobe is located and its basic functions. 111) _____
Answer: The frontal lobe is located toward the front region of the brain and is involved in the following: speech, search for specific memories, reasoning, emotions, and control of motor movement.

112) If Margaret is identified as a split-brain patient, then what condition does she have, and what procedure will have been done? 112) _____
Answer: Margaret probably has untreatable epilepsy and thus, her corpus callosum has been severed.

113) In terms of the neuroendocrine system, how might the body cope with the extra energy demands of stress? 113) _____
Answer: The outer layer of the adrenal glands will produce cortisol, which will ultimately break down protein and fat into sugar, which provides energy to the body.

114) Describe three ways in which music affects events at the level of the person based on research reviewed in your text. 114) _____
Answer: reduce arousal, calm people who have experienced trauma, and energize older people, improve mood of people who have had brain damage; relax people which in turn can improve their feelings of well-being

115) Briefly compare and contrast MRI with fMRI. 115) _____
Answer: Both are neuroimaging techniques. MRI reveals information pertaining to the structure of the brain whereas an fMRI reveals information pertaining to the function of the brain.

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

116) Maria is walking on the sidewalk when out of nowhere a car swerves in her direction. Maria's pupils dilate, her heart rate accelerates, and she begins to sweat profusely as she frantically moves away from the car unscathed without fully knowing what has just happened. Bystanders of the event reported that she clearly

feared for her life judging by her reaction to the incident. Explain how the various divisions of the nervous system played a role in Maria's reaction?

Answer: The peripheral nervous system is involved mainly because it is responsible for sending information to and receiving information from the central nervous system. Maria received visual input which started a chain of events once the input reached the brain, or the central nervous system.. The sympathetic division of the autonomic nervous is involved in that Maria reacted in a "fight-or-flight" manner. To move out of the way, the sensory-somatic nervous system would have been engaged due to its function in controlling motor movement.

117) Explain how picking up a pencil requires the use of all four lobes of the cerebral cortex.

Answer: One must first locate the pencil which requires that the person sees the pencil calling on the occipital lobe. The temporal lobe allows the person to recognize that the object in question is actually a pencil. The parietal lobe allows for the person to judge the distance between his/her hand and the pencil. The parietal lobe also houses the somatosensory strip which registers touch or grasping the pencil. The frontal lobe houses the motor cortex which would be involved in moving one's hand toward the pencil.

118) If you suffered a blow to the head, why might a doctor order both a MRI and fMRI? What does each technique entail? And, what kind of information does each yield?

Answer: Suffering a blow to the head might result in both structural and functional damage in the brain. Both techniques might lead to an accurate assessment of such potential damage. An MRI allows for the visualization of brain structure via magnetic properties of atoms. An fMRI allows for the visualization of brain function by determining the amount of oxygen used in various regions of the brain.

119) Discuss the two core ideas of Mendelian inheritance.

Answer: Mendelian inheritance examines the transmission of characteristics by individual elements of inheritance, each acting separately. The two core ideas are: (1) for each trait, an offspring inherits an "element" from each parent; and (2) in some cases, one of the elements dominates the other, and that is the one whose effect is apparent. If an element is not dominant, it is recessive. The effect of a recessive element is evident only when the offspring receives two copies of it, one from each parent.

120) Define pruning and plasticity. Then, compare and contrast how pruning and plasticity can change the brain as one experiences the world.

Answer: Pruning is a process whereby certain neural connections are eliminated since certain brain circuits will disappear if they are not used in one's given environment. Plasticity refers to the brain's ability to be molded by experience. It is most evident under the following conditions: during infancy and childhood, when the body changes, when we learn (or store) something new, and as compensation after brain damage.

121) Discuss three ways that your genes and environment may influence each other.

Answer: Passive interaction occurs when the parents' or sibling's genetically-shaped tendencies produce an environment that is passively received by the child. Evocative (or reactive) interaction occurs when genetically-influenced characteristics draw out behaviors from other people. Active interaction occurs when people choose, partly based on genetic tendencies, to put themselves in specific situations and to avoid others.

1) C
2) E
3) B
4) A
5) E
6) D
7) A
8) A
9) A
10) C
11) A
12) B
13) E
14) A
15) E
16) D
17) A
18) D
19) D
20) B
21) C
22) E
23) D
24) B
25) E
26) E
27) C
28) E
29) D
30) D
31) D
32) C
33) A
34) D
35) E
36) D
37) C
38) E
39) B
40) B
41) B
42) D
43) C
44) E
45) B
46) C
47) B
48) E
49) A
50) E
51) D

52) E
53) D
54) C
55) A
56) D
57) C
58) E
59) E
60) D
61) B
62) C
63) C
64) E
65) B
66) E
67) D
68) E
69) C
70) B
71) E
72) C
73) E
74) E
75) D
76) E
77) B
78) A
79) D
80) D
81) B
82) E
83) B
84) A
85) C
86) C
87) B
88) D
89) A
90) TRUE
91) FALSE
92) TRUE
93) FALSE
94) FALSE
95) FALSE
96) FALSE
97) TRUE
98) FALSE
99) TRUE
100) FALSE
101) TRUE
102) TRUE
103) TRUE

104) TRUE
105) TRUE
106) FALSE
107) Sensory, Motor, and Interneurons. Interneurons outnumber the other two types.
108) dendrites, cell body, axon, terminal buttons
109) The nervous system is divided into the central and peripheral nervous systems. The peripheral nervous system is further divided into the sensory-somatic and autonomic nervous systems. The autonomic nervous system is then divided into the parasympathetic and sympathetic divisions.
110) the occipital lobe
111) The frontal lobe is located toward the front region of the brain and is involved in the following: speech, search for specific memories, reasoning, emotions, and control of motor movement.
112) Margaret probably has untreatable epilepsy and thus, her corpus callosum has been severed.
113) The outer layer of the adrenal glands will produce cortisol, which will ultimately break down protein and fat into sugar, which provides energy to the body.
114) reduce arousal, calm people who have experienced trauma, and energize older people, improve mood of people who have had brain damage; relax people which in turn can improve their feelings of well-being
115) Both are neuroimaging techniques. MRI reveals information pertaining to the structure of the brain whereas an fMRI reveals information pertaining to the function of the brain.
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