Essentials of Psychology 5th edition Nevid Test Bank

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MULTIPLE CHOICE

1 : Dr. Gedge is examining a cell under a microscope. She sees a long, fibrous strand of tissue extending from one end of the cell body. She immediately recognizes this as a(n)
A : axon.
B : terminal button.
C : dendrite.
D : node of Ranvier.

Correct Answer : A

2 : The fundamental building block of the nervous system is the
A : nerve.
B : brain.
C : neuron.
D : spinal cord.

Correct Answer : C

3 : Regarding neurons, which of the following is NOT true?
A : Each is a single cell.
B : They transmit electrical impulses.
C : They contain genetic material.
D : They are the only cells found in the nervous system.

Correct Answer : D

4 : All of the following are components of a neuron EXCEPT the
A : soma.
B : axon.
C : medulla.
D : dendrite.

Correct Answer : C

5 : In a neuron, the cells metabolic functions are performed by the
A : soma.
B : axon.
C : terminal button.
D : dendrite.

Correct Answer : A

6 : Regarding a neurons soma, which of the following is NOT true?
A : The soma conducts outgoing messages to other neurons.
B : The soma is the neurons cell body.
C : The soma conducts life-sustaining functions of the cell.
D : The soma contains the cells genetic material.

Correct Answer : A

7 : Which one of the following activities best identifies the somas primary function?

A : Sending signals to other neurons
B : Carrying out metabolic processes
C : Producing myelin
D : Receiving signals from other neurons

Correct Answer : B

8 : Which part of a neuron may range in size from a few thousandths of an inch to several feet long?
A : Axon
B : Synapse
C : Myelin
D : Soma

Correct Answer : A

9 : The knoblike swellings at the ends of axons are called
A : terminal buttons.
B : synapses.
C : soma.
D : dendrites.

Correct Answer : A

10 : Regarding terminal buttons, which of the following is NOT true?
A : The terminal buttons release neurotransmitters.
B : Terminal buttons store chemicals.
C : Terminal buttons are the most common type of neuron in the nervous system.
D : Terminal buttons are found on axons.

Correct Answer : C

11 : Chemical messengers that transport nerve impulses from one nerve cell to another are called
A : glials.
B : synapses.
C : neurotransmitters.
D : interneurons.

Correct Answer : C

12 : Regarding the nervous system, which of the following statements is NOT true?
A : Nerves are not the same as neurons.
B : The nervous system has more than one type of neuron.
C : There are more neurons than glial cells in the nervous system.
D : Glial cells serve to support neurons.

Correct Answer : C

13 : Which of the following best describes a synapse?
A : A tiny gap separating one neuron from another through which messages are carried
B : The tubelike part of a neuron that carries messages to other neurons
C : Rootlike structures that receive neural impulses from other neurons

D : A bundle of axons from different neurons that transmit nerve impulses

Correct Answer : A

14 : Fibers that project from the soma are called
A : synapses.
B : axons.
C : dendrites.
D : terminal buttons.

Correct Answer : C

15 : Which part of a neuron could best be described as a receptor site?
A : Myelin sheath
B : Axon
C : Synapse
D : Dendrite

Correct Answer : D

16 : What is the primary job of a dendrite?
A : To send signals to other neurons
B : To receive signals from other neurons
C : To synthesize neurotransmitters
D : To control metabolic functions

Correct Answer : B

17 : Which of the following roles best identifies the job of a synapse?
A : To produce neurotransmitters
B : To enable communication among neurons
C : To house the neurons genetic material
D : To allow an attachment between the axon and the cell body

Correct Answer : B

18 : The three types of neurons in the human nervous system are called
A : interneurons, nerves, and glial cells.
B : sensory, motor, and interneurons.
C : glial cells, nerves, and myelin cells.
D : nodes of Ranvier, glial cells, and myelin cells.

Correct Answer : B

19 : What is the most common type of neuron found in your nervous system?
A : Sensory
B : Motor
C : Afferent
D : Interneuron

Correct Answer : D

20 : Efferent neurons are also known as

A : sensory neurons.
B : motor neurons.
C : interneurons.
D : nerves.

Correct Answer : B

21 : What is the role of afferent neurons?
A : To transmit information about the outside world to the spinal cord and brain
B : To convey messages from the brain and spinal cord to the muscles of the body controlling movement
C : To convey messages to glands for the release of hormones
D : To connect neurons to other neurons

Correct Answer : A

22 : Shalandas daughter touches her mothers face. Sensory receptors in Shalandas skin transmit information about this sensation to Shalandas spinal cord and brain. Which type of cell is responsible for this process?
A : Motor neuron
B : Glial cell
C : Associative neuron
D : Afferent neuron

Correct Answer : D

23 : Associative neuron is another name for
A : sensory neuron.
B : motor neuron.
C : interneuron.
D : efferent neuron.

Correct Answer : C

24 : Georgio is jogging barefoot along the beach when he suddenly steps on the sharp edge of a broken shell. He instantly feels pain due to the message carried to his brain by
A : sensory neurons.
B : motor neurons.
C : interneurons.
D : glial cells.

Correct Answer : A

25 : Melanie, a graduate student working in a neuroscience lab, grows neurons in a petri dish to study the effects of environmental toxins on neuronal communication. During one of Melanies experiments, she accidentally damages the axon of a neuron. Which of the following is the most likely consequence of this mishap?
A : The neuron will not be able to transmit information to other cells.
B : The neuron will not be able to translate proteins.
C : The neuron will not be able to receive inputs from other cells.
D : The neurons other axons will have to take over the function of the damaged axon.

Correct Answer : A

26 : Afferent neurons are also known as
A : motor neurons.
B : sensory neurons.
C : nerves.
D : interneurons.

Correct Answer : B

27 : Besides the neuron, the other main type of cell in the nervous system is the _____ cell.
A : glial
B : nerve
C : somatic
D : myelin

Correct Answer : A

28 : During his first three years of life, Jason developed many motor skills such as crawling, walking, and running that required his muscles to move efficiently and smoothly. In terms of brain function, Jasons motor development is the result of which process?
A : Stripping of the nodes of Ranvier
B : Development of the myelin sheath
C : Depolarization
D : Regulation of hormones

Correct Answer : B

29 : White matter refers to
A : clusters of glial cells.
B : myelinated axons.
C : clusters of synapses.
D : nodes of Ranvier.

Correct Answer : B

30 : The fatty layer of cells that is wrapped around many axons is called the
A : myelin sheath.
B : synaptic cover.
C : dendritic wrap.
D : terminal button.

Correct Answer : A

31 : What is the shape of Glial cells?
A : Pinched at the waist
B : Random
C : Oval
D : Branched

Correct Answer : A

32 : Glial cells do all of the following EXCEPT
A : form the myelin sheath.

B : remove waste products from neurons.
C : nourish neurons.
D : produce neurotransmitters.

Correct Answer : D

33 : Gaps in myelin exposing noninsulated areas along an axon are called
A : nodes of Ranvier.
B : terminal buttons.
C : synapses.
D : receptors.

Correct Answer : A

34 : Jeanne is a 33-year-old doctor who was recently diagnosed with multiple sclerosis (MS). The effects of multiple sclerosis are caused by
A : a traumatic brain injury.
B : age.
C : the destruction of neurons myelin sheaths.
D : medication to combat the progress of multiple sclerosis.

Correct Answer : C

35 : What is the purpose of the myelin sheath?
A : To connect neurons
B : To perform metabolic functions
C : To speed transmission of neutral impulses
D : To create dendrites

Correct Answer : A

36 : How does neural impulse travel down an axon so quickly?
A : It stays on the myelin sheath.
B : It jumps from one node of Ranvier to the next.
C : A powerful change to initiate the neural impulse ensures that the neural impulse is fast.
D : Turning off some axons allows the neural impulse to skip some axons so it travels faster.

Correct Answer : B

37 : Professor Freeman calls on his student Maya to describe how the presence of the myelin sheath affects neural impulses. How should Maya respond?
A : Current flows through the myelin sheath, decreasing the speed and efficiency of the neural impulse.
B : Current avoids the myelin sheath, decreasing the speed and efficiency of the neural impulse.
C : The myelin sheath insulates the axon, increasing the speed and efficiency of the neural impulse.
D : The myelin sheath does not affect the speed and efficiency of the neural impulse.

Correct Answer : C

38 : The resting potential of a neuron is a result of the
A : high concentration of sodium ions outside the cell.
B : high concentration of sodium ions inside the cell.

C : low concentration of potassium ions outside the cell.
D : high concentration of potassium ions inside the cell.

Correct Answer : A

39 : What is the approximate resting potential of a neuron?
A : 50 mV
B : 70 mV
C : +50 mV
D : +70 mV

Correct Answer : B

40 : Neural impulses are also called
A : refractory periods.
B : action potentials.
C : resting potentials.
D : neuromodulators.

Correct Answer : B

41 : Depolarization occurs when the neuron becomes
A : less negative due to the influx of sodium ions.
B : more negative due to the influx of sodium ions.
C : more negative due to the influx of potassium ions.
D : more negative due to the outflow of potassium ions.

Correct Answer : A

42 : What creates an electrochemical change in a neuron to generate an electrical signal?
A : The movement of ions across the cell membrane
B : Resting
C : Action potential
D : The action of enzymes

Correct Answer : A

43 : Why does a neuron in a resting state have a negative charge?
A : A greater concentration of negatively charged potassium ions remains outside the cell.
B : A greater concentration of positively charged potassium ions remains inside the cell.
C : A greater concentration of positively charged sodium ions remains outside the cell.
D : A greater concentration of negatively charged sodium ions remains outside the cell.

Correct Answer : C

44 : Which of the following statements about action potentials is NOT true?
A : They are generated according to an all-or-none principle.
B : They all travel at the same speed.
C : They are electrical charges that shoot down the axon.
D : They are followed by a refractory period.

Correct Answer : B

45 : Which of the following does NOT occur during the refractory period?
A : Sodium gates close.
B : Positively charged ions are pumped out.
C : Neurotransmitters are pumped in.
D : The neuron cannot fire.

Correct Answer : C

46 : After a neuron fires, about how long is its refractory period?
A : Less than a second
B : Five seconds
C : Minimally thirty seconds
D : Roughly one minute

Correct Answer : A

47 : What happens when an action potential arrives at the end of an axon?
A : The synthesis of neurotransmitters by specialized enzymes
B : The uptake of neurotransmitters from the extracellular space
C : The enzymatic breakdown of residual neurotransmitters
D : The release of neurotransmitters into the extracellular fluid

Correct Answer : D

48 : Where do neurons touch each other?
A : At the terminal node
B : In a synapse
C : Through the myelin sheaths
D : Neurons dont touch

Correct Answer : D

49 : Prolonged neurotransmitter activity is prevented by all of the following functions EXCEPT
A : reuptake.
B : release of excitatory neurotransmitters.
C : breakdown of neurotransmitters by enzymes.
D : regulation of sensitivity to neurotransmitters.

Correct Answer : B

50 : Regarding neurotransmitters, which of the following statements is NOT true?
A : Neurotransmitters carry messages.
B : Neurotransmitters can be reabsorbed.
C : Each neurotransmitter has both excitatory and inhibitory effects.
D : Neurotransmitters can decompose.

Correct Answer : C

51 : A neurotransmitter is released into a synapse, but it has no effect on a neighboring neuron. Which of the following BEST accounts for the unresponsiveness of the neighboring neuron?
A : The neighboring neuron does not contain any neurotransmitters of its own.
B : The neighboring neurons vesicles are defective.
C : The neighboring neuron has an outer membrane.

D : The neighboring neurons receptors do not accept this type of neurotransmitter.

Correct Answer : D

52 : Once a neurotransmitter is released, it
A : continuously stimulates a receiving cell.
B : is looking for a specific type of receptor site.
C : continuously inhibits a receiving cell.
D : has no effect on other neurons and it is reabsorbed or eliminated.

Correct Answer : B

53 : Molly, a second-year neuroscience graduate student, treats neurons grown in a petri dish with drugs that block the function of receptor sites. What is the most likely consequence of the drug treatment?
A : The neurons will become hyperpolarized, initiating a refractory period.
B : The neurons will not be able to sense neurotransmitters, interfering with neuronal communication.
C : The synaptic vesicles will be void of neurotransmitters, interfering with neuronal communication.
D : Action potentials will fire immediately, enhancing neuronal communication.

Correct Answer : B

54 : Which is an accurate statement regarding the generation of an action potential?
A : Inhibitory effects make an action potential more likely to occur.
B : Large stimulations lead to large action potentials.
C : If a neuron becomes depolarized to the threshold level, an action potential is inevitable.
D : Small depolarizations lead to small action potentials.

Correct Answer : C

55 : Psychologists believe that _____ may help explain symptoms of schizophrenia.
A : death of cells producing neurotransmitters
B : irregularities in how the brain uses dopamine
C : overproduction of enzymes
D : overuse of stimulants that act as agonists

Correct Answer : B

56 : Parkinsons disease leads to progressive loss of motor function and is a condition resulting from a(n)
A : overproduction of agonists.
B : shortage of antagonists.
C : shortage of dopamine.
D : overproduction of glutamate.

Correct Answer : C

57 : Parkinsons disease is caused by irregularities in neurotransmitter functioning, resulting in which of the following symptoms?
A : Hallucinations
B : Delusions

C : Pain repression
D : Muscle stiffness

Correct Answer : D

58 : Agonists do all of the following EXCEPT
A : block receptor sites.
B : increase the effectiveness of neurotransmitters.
C : block reuptake of neurotransmitters.
D : mimic the action of neurotransmitters.

Correct Answer : A

59 : Antagonists are drugs or chemicals that
A : increase the availability of neurotransmitters.
B : increase the effectiveness of neurotransmitters.
C : block receptor sites.
D : speed up the transmission of neural impulses.

Correct Answer : C

60 : Shelley drinks two large caffeinated lattes every morning. In terms of neurotransmission, what is happening in Shelleys body?
A : Caffeine in the coffee serves as an agonist that suppresses the actions of glutamate and enhances the actions of dopamine.
B : Caffeine in the coffee serves as an agonist that suppresses the actions of dopamine.
C : Caffeine in the coffee serves as an antagonist that enhances the actions of glutamate.
D : Caffeine in the coffee serves as an agonist that increases the availability of glutamate.

Correct Answer : D

61 : Which of the following is an antagonist that blocks the actions of a particular neurotransmitter?
A : Amphetamines, which produce a state of pleasure
B : Caffeine, which keeps the central nervous system stimulated
C : Antipsychotic drugs, which help control hallucinations and delusional thinking
D : Alcohol, which produces a relaxed feeling

Correct Answer : C

62 : Cocaine and amphetamines increase the availability of which neurotransmitter?
A : Glutamate
B : Norepinephrine
C : Dopamine
D : Gamma-aminobutyric acid (GABA)

Correct Answer : C

63 : Which of the following neurotransmitters prevents neurons from overly exciting adjacent nerve cells?
A : Gamma-aminobutyric acid (GABA)
B : Glutamate
C : Dopamine

D : Norepinephrine

Correct Answer : A

64 : Endorphins are similar in chemical structure to which of the following drugs?
A : Cocaine
B : Morphine
C : Caffeine
D : Alcohol

Correct Answer : B

65 : Bottoms-Up Microbrewery hosts a Beer Fest every October, where patrons consume large amounts of alcohol. At the neurotransmitter level, what is happening to the drinkers?
A : Alcohol decreases sensitivity of receptor sites for serotonin.
B : Alcohol increases sensitivity of receptor sites for gamma-aminobutyric acid (GABA).
C : Alcohol decreases the availability of dopamine.
D : Alcohol mimics the effects of endorphins.

Correct Answer : B

66 : Anxiety disorders such as panic disorder may be due to reduced levels of
A : dopamine.
B : glutamate.
C : serotonin.
D : gamma-aminobutyric acid (GABA).

Correct Answer : D

67 : Fourteen-year-old Anton takes medication for his depression. Chemically speaking, the medication works for Anton primarily by increasing the availability of _____ in his brain.
A : dopamine
B : gamma-aminobutyric acid (GABA)
C : serotonin
D : glutamate

Correct Answer : C

68 : Sharon is a long-distance runner. After a certain point in her workout, she begins to feel a natural high instead of pain. This feeling is likely the result of chemicals in her brain called
A : stimulants.
B : enzymes.
C : endorphins.
D : adrenalines.

Correct Answer : C

69 : Chemicals produced in the brain that have many of the same properties as morphine are called
A : enzymes.
B : stimulants.
C : endorphins.
D : amphetamines.

Correct Answer : C

70 : Dr. Pohler is a neurobiologist studying ways to help those who overeat because they cant feel full after a meal. He should investigate chemicals similar to the neurotransmitter
A : endorphin.
B : serotonin.
C : norepinephrine.
D : noradrenaline.

Correct Answer : B

71 : Your anatomy professor states that todays lecture will be about the central nervous system. Which parts of the body do you expect to learn about?
A : The brain
B : The spinal cord
C : The brain and spinal cord
D : The brain, spinal cord, and sensory organs

Correct Answer : C

72 : The brain and the spinal cord make up the
A : somatic nervous system.
B : peripheral nervous system.
C : autonomic nervous system.
D : central nervous system.

Correct Answer : D

73 : Which of the following promotes digestion, slowing other bodily processes?
A : Autonomic nervous system
B : Somatic nervous system
C : Parasympathetic nervous system
D : Sympathetic nervous system

Correct Answer : C

74 : What is the role of the spinal cord?
A : It performs higher mental functions.
B : It connects the brain to the peripheral nervous system.
C : It regulates your heart rate.
D : It carries sensory information to the central nervous system.

Correct Answer : B

75 : The two major parts of the nervous system are
A : the autonomic nervous system and the somatic nervous system.
B : the somatic nervous system and the spinal cord.
C : the central nervous system and the peripheral nervous system.
D : the sympathetic nervous systems and the parasympathetic nervous system.

Correct Answer : C

76 : The two parts of the peripheral nervous system are
A : the autonomic nervous system and the central nervous system.
B : the somatic nervous system and the autonomic nervous system.
C : the parasympathetic and sympathetic nervous systems.
D : the sympathetic and the somatic nervous systems.

Correct Answer : B

77 : Which of the following statements about the autonomic nervous system is NOT true?
A : It operates without conscious direction.
B : It transmits messages between the central nervous system and sensory organs and muscles.
C : It consists of the parasympathetic and sympathetic nervous systems.
D : It regulates involuntary bodily processes.

Correct Answer : B

78 : Your heartbeat, digestion, and pupil contractions are regulated by the _____ nervous system.
A : somatic
B : autonomic
C : central
D : spinal

Correct Answer : B

79 : The two subdivisions of the autonomic nervous system are
A : the peripheral nervous system and the central nervous system.
B : the somatic nervous system and the peripheral nervous system.
C : the parasympathetic and sympathetic nervous systems.
D : the involuntary and voluntary nervous systems.

Correct Answer : C

80 : Which of the following situations is most directly governed by the parasympathetic nervous system?
A : Betty meditates to relax every evening after dinner.
B : Chans pupils dilate when he tells a lie to his father.
C : Dawns heart beats faster as she prepares to take her first psychology exam.
D : Evans breathing rate increases while giving a speech.

Correct Answer : A

81 : You stayed at the library too late, and now you have to walk home in the dark. Which component of the autonomic nervous system prepares you to move faster when passing a dark driveway?
A : Sympathetic nervous system
B : Parasympathetic nervous system
C : Somatic nervous system
D : Central nervous system

Correct Answer : A

82 : The part of the nervous system that enables you to make sense of the sensations you experience in the world around you is
A : the autonomic nervous system.
B : the perceptual nervous system.
C : the sympathetic nervous system.
D : the central nervous system.

Correct Answer : D

83 : All of the following are parts of the brain EXCEPT
A : the hindbrain.
B : the midbrain.
C : the frontbrain.
D : the forebrain.

Correct Answer : C

84 : An automatic, unlearned response to a stimulus is a
A : phenotype.
B : reflex.
C : nerve.
D : synapse.

Correct Answer : B

85 : Which of the following statements about spinal reflexes is NOT true?
A : They are unlearned reactions.
B : They allow very quick responses.
C : The message goes directly to the brain.
D : They are automatic.

Correct Answer : C

86 : On a camping trip, Eleni accidentally steps on a hot coal from the campfire. Upon touching the coal, her foot reflexively withdraws from the coal. What is the sequence of response in Elenis neurons?
A : Sensory neuron interneuron motor neuron
B : Sensory neuron motor neuron interneuron
C : Motor neuron interneuron sensory neuron
D : Motor neuron sensory neuron interneuron

Correct Answer : A

87 : What is the major function of the spinal cord?
A : It provides structural support for the trunk of the body.
B : It serves as a major pathway for information flowing to and from the brain.
C : It creates sensory information.
D : It protects the brain.

Correct Answer : B

88 : Which of the following is an example of a spinal reflex?
A : Lowering of blood pressure after eating

B : Remembering a special event
C : Blinking when sand blows toward your eyes
D : Holding up a hand to shade your eyes on a sunny day

Correct Answer : C

89 : Which statement about the spinal cord is NOT true?
A : It begins at the base of your brain.
B : It relays messages between the brain and the rest of the body.
C : It controls certain reflexes without communication with the brain.
D : It is the most important element of the peripheral nervous system.

Correct Answer : D

90 : The sympathetic nervous system signals organs in the body to do each of the following EXCEPT
A : increase heart rate.
B : release glucose.
C : draw stored energy from bodily reserves.
D : promote digestion.

Correct Answer : D

91 : The parasympathetic nervous system is responsible for
A : conserving energy by slowing down bodily processes.
B : signaling the heart to beat faster when you are angry.
C : voluntary movement.
D : receiving messages from the bodys sensory neurons.

Correct Answer : A

92 : When you encounter a dangerous situation, the part of the nervous system that creates the alarm is the _____ nervous system.
A : somatic
B : sympathetic
C : parasympathetic
D : central

Correct Answer : B

93 : Which of the following accurately pairs a division of the autonomic nervous system with a bodily function or state?
A : The sympathetic nervous system accelerates your heart rate.
B : The sympathetic nervous system reduces arousal.
C : The parasympathetic nervous system inhibits digestive activity.
D : The parasympathetic nervous system accelerates bodily processes.

Correct Answer : A

94 : People are often able to live in a coma for several years because parts of the body that are not under conscious control continue to function. This situation best reflects the importance of the
A : central nervous system.

B : autonomic nervous system.
C : somatic nervous system.
D : forebrain.

Correct Answer : B

95 : You see a vicious-looking dog getting ready to attack you. What specific part of the nervous system acts as an alarm that would automatically be activated to prepare your body for the fight-or-flight response after you recognize the danger and feel afraid?
A : Somatic
B : Sympathetic
C : Parasympathetic
D : Central

Correct Answer : B

96 : Which of the following is an example of the autonomic nervous system at work?
A : Manoj enjoys listening to bird songs early in the morning.
B : Rachels foot kicks out when her physician taps her knee.
C : Peter struggles to scratch an itch in the middle of his back.
D : Gina salivates at the smell of fresh bread baking in her grandmothers kitchen.

Correct Answer : D

97 : The somatic nervous system contains
A : the sympathetic nervous system and the parasympathetic nervous system.
B : sensory and motor neurons.
C : the spinal cord.
D : the liver, which it uses to release sugar to fuel the body.

Correct Answer : B

98 : The brains three major parts are the
A : frontal, parietal, and temporal lobes.
B : amygdala, hippocampus, and thalamus.
C : hindbrain, midbrain, and forebrain.
D : medulla, pons, and cerebellum.

Correct Answer : C

99 : Which brain structure routes information from sense receptors to be processed?
A : Hypothalamus
B : Thalamus
C : Basal ganglia
D : Limbic system

Correct Answer : B

100 : Its a hot day, and you are hiking in a national park in Colorado. Look over there. Its a poisonous snake! your friend yells. Where is the sensory information such as heat, sight, and sound sorted and routed?
A : Limbic system
B : Thalamus

C : Hippocampus
D : Medulla

Correct Answer : B

101 : All of the following structures are in the forebrain EXCEPT the
A : thalamus.
B : basal ganglia.
C : cerebellum.
D : amygdala.

Correct Answer : C

102 : All of the following are part of the limbic system EXCEPT
A : the amygdala.
B : the hippocampus.
C : the pons.
D : parts of the hypothalamus.

Correct Answer : C

103 : The thalamus routes all of the following senses for processing in the cerebral cortex EXCEPT
A : touch.
B : taste.
C : smell.
D : vision.

Correct Answer : C

104 : Which brain structure regulates thirst, hunger, and body temperature?
A : Reticular formation
B : Hippocampus
C : Thalamus
D : Hypothalamus

Correct Answer : D

105 : The cluster of nerve cells involved in regulating voluntary movement is the
A : basal ganglia.
B : thalamus.
C : reticular formation.
D : limbic system.

Correct Answer : A

106 : The _____ is located just behind the amygdala and can be described as playing an important role in the formation of memories.
A : hypothalamus
B : thalamus
C : hippocampus
D : cerebellum

Correct Answer : C

107 : After a motorcycle accident in which she wasnt wearing a helmet, Vanessa has difficulty responding emotionally to unpleasant stimuli. Vanessa most likely experienced damage to which brain structure?
A : Medulla
B : Amygdala
C : Thalamus
D : Hippocampus

Correct Answer : B

108 : What is the role of the thalamus in relationship to the cortex?
A : Motor outputs generated in the cerebral cortex are funneled first through the thalamus, which then sends inputs to the motor neurons.
B : Input from most of our sensory systems travels first to the thalamus, which then funnels the information to the cerebral cortex.
C : Motor outputs generated in the thalamus are funneled first through the cerebral cortex, which then sends inputs to the motor neurons.
D : Input from most of our sensory systems travels first to the cerebral cortex, which then funnels the information to the thalamus.

Correct Answer : B

109 : Dr. Williamson conducts research examining the effects of electrical stimulation in certain parts of the brain. Dr. Williamson has found that stimulation of this part of the brain in laboratory rats will result in changes to the rats mating, eating, and socialization behaviors. Based on this description, which part of the brain is Dr. Williamson most likely to be studying?
A : Hypothalamus
B : Medulla
C : Pons
D : Amygdala

Correct Answer : A

110 : The hippocampus is shaped like a(n)
A : pea.
B : almond.
C : egg.
D : seahorse.

Correct Answer : D

111 : Which part of the forebrain sorts incoming sensory information?
A : Thalamus
B : Hypothalamus
C : Limbic system
D : Cerebral cortex

Correct Answer : A

112 : Which of the following plays an important role in the formation of memories?
A : Hypothalamus

B : Thalamus
C : Hippocampus
D : Cerebellum

Correct Answer : C

113 : Christopher suffered a traumatic brain injury in an automobile accident. Since the accident, he has great difficulty in forming new memories but remembers his childhood well, which suggests that his _____ was damaged.
A : hippocampus
B : hypothalamus
C : basal ganglia
D : amygdala

Correct Answer : A

114 : One of the functions of the limbic system is to
A : regulate memories and emotions.
B : moderate pain signals from the muscles.
C : regulate blood pressure and heart rate.
D : pass information from one hemisphere of the brain to the other.

Correct Answer : A

115 : You are watching a really scary movie. The main character is about to be attacked by a monster. Your fear reaction is triggered by the
A : hypothalamus.
B : hippocampus.
C : thalamus.
D : amygdala.

Correct Answer : D

116 : How does the input of olfactory information to the brain differ from other sensory input pathways?
A : It does not require the cortex for higher order processing.
B : Direct connections to the thalamus are not made before information reaches the cortex.
C : The first direct connection is to the thalamus and not to the medulla.
D : Prior to making connections with the medulla, sensory input is evaluated by the spinal cord.

Correct Answer : B

117 : A rare health condition caused damage to the amygdala on both sides of Ninas brain. She is now more _____ than she was in the past.
A : likely to overeat
B : impulsive
C : forgetful
D : fearless

Correct Answer : D

118 : All of the following describe the reticular formation EXCEPT
A : it contains nerve pathways that connect the hindbrain with the forebrain.

B : it regulates attention.
C : it regulates arousal.
D : it controls heartbeat.

Correct Answer : D

119 : After a stroke, Belinda was not able to focus on an object Dr. Gregory moved back and forth in front of her eyes. What area of the brain does Dr. Gregory suspect might have been damaged by the stroke?
A : The basal ganglia
B : The hypothalamus
C : The midbrain
D : The cerebellum

Correct Answer : C

120 : Stephanie reports to her physician that she suddenly cannot sleep because she is unable to tune out noises such as the humming of the refrigerator or an occasional car driving down the street. Medical tests discover a tumor in her
A : reticular formation.
B : cerebellum.
C : hippocampus.
D : thalamus.

Correct Answer : A

121 : The phone rings while youre asleep. Which of the following alerts you to wake up?
A : Basal ganglia
B : Brainstem
C : Reticular formation
D : Pons

Correct Answer : C

122 : Regarding the midbrain, which of the following statements is TRUE?
A : The midbrain plays an important role in the regulation of memory and emotions.
B : The midbrain is the oldest part of the brain in evolutionary terms.
C : The midbrain helps to keep the eyes focused when the head moves.
D : The midbrain contains the medulla, pons, and cerebellum.

Correct Answer : C

123 : Which of the following is NOT part of the hindbrain?
A : Cerebellum
B : Reticular formation
C : Medulla
D : Pons

Correct Answer : B

124 : During the past hour, nine-month-old Heather has engaged in each of the following actions. Which action was NOT controlled by her medulla?
A : She had an accelerated heartbeat when her older brother frightened her.

B : She coughed after breathing in some dust particles.
C : She swallowed formula from her bottle.
D : She smiled when wind caused her mobile to move.

Correct Answer : D

125 : Trina has recently been having trouble staying awake throughout the day. Which area of Trinas brain is most likely involved?
A : Cerebellum
B : Pons
C : Medulla
D : Cerebrum

Correct Answer : B

126 : Which part of the brain controls balance and coordination?
A : Cerebrum
B : Cerebellum
C : Pons
D : Medulla

Correct Answer : B

127 : The fact that alcohol often causes problems with balance and coordination suggests that it may have an effect on the
A : cerebrum.
B : corpus callosum.
C : cerebellum.
D : thalamus.

Correct Answer : C

128 : The oldest part of the brain in terms of evolution is the
A : midbrain.
B : hindbrain.
C : cerebrum.
D : medulla.

Correct Answer : B

129 : The medullas function is
A : controlling vital reflexes such as respiration, heart rate, and blood pressure.
B : initiating voluntary movements.
C : regulating the production of speech.
D : connecting the spinal cord to the brain and makes chemicals important in sleep.

Correct Answer : A

130 : Josie is a gifted athlete. Her amazing grace and coordination are controlled by the
A : cerebellum.
B : reticular formation.
C : hippocampus.
D : limbic system.

Correct Answer : A

131 : Stella coughed after the first bite of the spicy food. Her reaction was controlled by the
A : cerebellum.
B : medulla.
C : reticular formation.
D : basal ganglia.

Correct Answer : B

132 : After a stroke, Gladys was not able to lift her right arm. Which of the following areas might have been damaged by the stroke?
A : Amygdala
B : Occipital lobes
C : Cerebellum
D : Limbic system

Correct Answer : C

133 : After a concussion Liz started having trouble sleeping at night, and she began falling asleep at different times of the day. Which part of her brain might have been damaged when she was injured?
A : Cerebrum
B : Cerebellum
C : Pons
D : Medulla

Correct Answer : C

134 : The cerebral cortex accounts for approximately what percentage of the brains total mass?
A : 25%
B : 40%
C : 50%
D : 80%

Correct Answer : D

135 : The part of the brain that forms the pathway by which the cerebral hemispheres communicate and share information is the
A : cerebrum.
B : corpus callosum.
C : cerebral cortex.
D : medulla.

Correct Answer : B

136 : Which parts of the brain lie beneath the cerebral cortex?
A : Cerebral hemispheres
B : Parietal lobes
C : Frontal lobes
D : Subcortical structures

Correct Answer : D

137 : Which of the following describes the corpus callosum?
A : It is the thin outer layer of the cerebrum.
B : It is the connection between the two cerebral hemispheres.
C : It consists of four parts: the occipital, parietal, frontal, and temporal lobes.
D : It consists of the left and right hemispheres.

Correct Answer : B

138 : The thin layer of cells that covers the surface of the forebrain is called the
A : cerebral cortex.
B : myelin sheath.
C : cerebellum.
D : thalamus.

Correct Answer : A

139 : Regarding the organization of the cerebral cortex and cerebrum, which of the following statements is NOT true?
A : The cerebral cortex connects the cerebral hemispheres.
B : In general, each cerebral hemisphere controls feeling and movement on the opposite side of the body.
C : Each hemisphere of the cerebral cortex has two lobes.
D : The cerebrum consists of two large masses, called the left and right hemispheres.

Correct Answer : C

140 : In the cerebral cortex, the _____ lobes process visual information.
A : occipital
B : temporal
C : frontal
D : parietal

Correct Answer : A

141 : After a car accident, Brandon lost some of his visual abilities. Based on this description of his injuries, which portion of Brandons cerebral cortex was probably damaged in the accident?
A : Somatosensory lobes
B : Temporal lobes
C : Parietal lobes
D : Occipital lobes

Correct Answer : D

142 : Simon sees stars after being hit on the head. Based on this description, Simons experience is the result of actions in his
A : frontal lobes.
B : somatosensory lobes.
C : temporal lobes.
D : occipital lobes.

Correct Answer : D

143 : Which lobes process information related to touch and body movement?
A : Occipital
B : Temporal
C : Parietal
D : Frontal

Correct Answer : C

144 : Damage to which portion of the cerebral cortex would most likely interfere with a persons hearing?
A : Temporal lobes
B : Occipital lobes
C : Parietal lobes
D : Frontal lobes

Correct Answer : A

145 : Somatosensory information is processed by which lobes?
A : Occipital
B : Frontal
C : Temporal
D : Parietal

Correct Answer : D

146 : Following a brain injury, Molly cannot feel stimulation of her arms. She probably suffered damage to which portion of the brain?
A : Frontal lobes
B : Parietal lobes
C : Temporal lobes
D : Occipital lobes

Correct Answer : B

147 : Which type of animal has the largest portion of the brain devoted to the cerebral cortex?
A : Rat
B : Chimpanzee
C : Cat
D : Frog

Correct Answer : B

148 : If your parietal lobes are damaged, you would have difficulty
A : imitating motor movements made by others.
B : coordinating movements on the left side and right side of your body.
C : with visual perception.
D : using touch to identify a telephone in a dark room.

Correct Answer : D

149 : Regarding the frontal lobes, which of the following statements is NOT true?
A : The frontal lobes control voluntary movements of specific parts of the body.

B : The frontal lobes contain the motor cortex and the somatosensory cortex.
C : The frontal lobes enable humans to suppress impulses.
D : Of the brain lobes, the frontal lobes are the ones best described as containing you.

Correct Answer : B

150 : Which parts of the forebrain are sometimes described as the executive center and can be likened to the central processing unit of a computer?
A : Frontal lobes
B : Temporal lobes
C : Parietal lobes
D : Occipital lobes

Correct Answer : A

151 : Which part of the forebrain retrieves memories from storage?
A : Frontal lobes
B : Temporal lobes
C : Cerebral lobes
D : Parietal lobes

Correct Answer : A

152 : Tricias head injury had a surprising effect on her. Although she didnt develop any physical problems, she realized that she was taking more risks and acting more impulsively in ways that damaged her friendships. Which area of her brain might have been injured?
A : Temporal lobes
B : Frontal lobes
C : Occipital lobes
D : Parietal lobes

Correct Answer : B

153 : Following brain trauma, Takami has difficulty processing auditory stimuli. Based on this description, Takami probably suffered damage to which portion of her brain?
A : Frontal lobes
B : Parietal lobes
C : Temporal lobes
D : Occipital lobes

Correct Answer : C

154 : Math problems are solved in the
A : frontal lobes.
B : parietal lobes.
C : corpus callosum.
D : association areas.

Correct Answer : D

155 : Where do you piece together sensory input to form meaningful perceptions of the world?
A : Frontal lobes
B : Association areas

C : Temporal lobes
D : Parietal lobes

Correct Answer : B

156 : What cortical areas piece together sensory input?
A : Basal
B : Motor
C : Somatosensory
D : Association

Correct Answer : D

157 : Jon ducked when the movies hero ducked to avoid an injury. His reaction was caused by neurons in the
A : occipital lobes.
B : parietal lobes.
C : frontal lobes.
D : temporal lobes.

Correct Answer : C

158 : The motor cortex initiates all voluntary movements and is found in the
A : limbic system.
B : parietal lobes.
C : association areas.
D : frontal lobes.

Correct Answer : D

159 : Stimulating the motor cortex causes the person to
A : cough.
B : move a specific part of the body.
C : remember a special occasion.
D : smell a specific scent.

Correct Answer : B

160 : Which part of the brain helps you to produce and understand speech?
A : Amygdala
B : Corpus callosum
C : Somatosensory cortex
D : Association areas

Correct Answer : D

161 : Sonal is at a brain research center, participating in a study. She is hooked up to a machine that measures electrical activity in her brain through the use of electrodes attached to her scalp. This description best characterizes which of the following techniques?
A : Computed tomography
B : Electroencephalography
C : Ppositron emission tomography
D : Magnetic resonance imaging

Correct Answer : B

162 : Positron emission tomography (PET) scans work by
A : measuring the reflection of a narrow X-ray beam as it passes through the brain.
B : tracing the amount of energy used in different parts of the brain.
C : measuring the signals emitted by the brain when placed in a strong magnetic field.
D : using mild electrical currents to observe the effects of stimulating parts of the brain.

Correct Answer : B

163 : Which technique can best be described as using the measurement of radioactive isotopes to evaluate the activity of the brain?
A : Electroencephalography
B : Computed tomography
C : Magnetic resonance imaging
D : Positron emission tomography

Correct Answer : D

164 : All but which of the following techniques are used for recording and/or imaging the brain EXCEPT
A : EEG.
B : lesioning.
C : MRI.
D : PET scan.

Correct Answer : B

165 : Brain wave patterns during sleep are BEST monitored using a(n)
A : CAT scan.
B : X-ray.
C : electroencephalogram.
D : electrical recording.

Correct Answer : C

166 : Which technique uses specialized equipment to take pictures of the brain while the person is performing tasks?
A : Computed tomography
B : Electroencephalography
C : Magnetic resonance imagery
D : Functional magnetic resonance imaging

Correct Answer : D

167 : Jessica joined a study investigating brain function by trying to determine why people cant tickle themselves. Which technique would be most useful?
A : Functional MRI
B : MRI
C : EEG
D : PET scan

Correct Answer : A

168 : Lesioning is
A : using an electrode placed in the brain to stimulate neurons.
B : using an electrode placed in the brain to record neural activity.
C : purposefully damaging a portion of the brain in order to observe the outcome.
D : using a doughnut-shaped device to produce an image of the brain.

Correct Answer : C

169 : All of the following are experimental techniques EXCEPT
A : computed tomography scan.
B : electrical recording.
C : lesioning.
D : electrical stimulation.

Correct Answer : B

170 : Which method can scientists use to view the activity of a single brain cell?
A : Computed tomography
B : Electrical recording
C : Positron emission tomography
D : Magnetic resonance imagery

Correct Answer : B

171 : Of the following people, who is most likely to be using primarily the right hemisphere?
A : Anthony is giving a speech.
B : Clarita is writing a story.
C : Dominic is performing math computations.
D : Eduardo is listening to music.

Correct Answer : D

172 : Scientists use the term _____ to describe the division of functions between the right and left cerebral hemispheres of the brain.
A : all-or-none
B : plasticity
C : handedness
D : lateralization

Correct Answer : D

173 : The term lateralization refers to
A : divisions of the brain into hindbrain, midbrain, and forebrain.
B : the division of functions between the right and left hemispheres.
C : the cross-wiring of the brain.
D : the connections between Brocas area and Wernickes area.

Correct Answer : B

174 : Regarding lateralization, which of the following statements is TRUE?
A : For most people, the right hemisphere is dominant for language abilities.

B : For most people, the left hemisphere is dominant for perceiving emotion.
C : People typically have a stronger left brain or right brain.
D : Both hemispheres share the work for most tasks.

Correct Answer : D

175 : The language areas of the brain are named for _____, the scientist who identified its function.
A : Roger Sperry
B : Michael Gazzaniga
C : Karl Wernicke
D : Paul Broca

Correct Answer : D

176 : Wernickes area is located in the _____ lobe.
A : left temporal
B : right frontal
C : left frontal
D : right temporal

Correct Answer : A

177 : Wernickes area is associated with
A : language comprehension.
B : left-handedness.
C : recognizing emotion.
D : language production.

Correct Answer : A

178 : Damage to Brocas area can lead to
A : Alzheimers disease.
B : schizophrenia.
C : Parkinsons disease.
D : aphasia.

Correct Answer : D

179 : Recent research suggests that hand preference begins to develop
A : before birth.
B : during the first six months of life.
C : between ages 1 and 2.
D : around ages 5 or 6.

Correct Answer : A

180 : Among five sets of identical twins, how many pairs are predicted to share the same hand preference?
A : One pair
B : Two pairs
C : Four pairs
D : Five pairs

Correct Answer : C

181 : Regarding handedness, which of the following statements is NOT true?
A : Prenatal hormones, genetics, and social factors all influence the development of handedness.
B : Males are more likely than females to be left-handed.
C : More than 95% of fetuses suck their right thumbs.
D : When one parent is left-handed and one parent is right-handed, the chances of their offspring being left-handed are 1 in 2.

Correct Answer : D

182 : A split-brain is the result of an operation that severs the
A : cerebrum.
B : cerebellum.
C : corpus callosum.
D : cerebral cortex.

Correct Answer : C

183 : Jackson had an operation in which his corpus callosum was severed. It is most likely that Jackson had which disease?
A : Epilepsy
B : Parkinsons disease
C : Alzheimers disease
D : Multiple sclerosis

Correct Answer : A

184 : Doctors suspect that Marcella has a large lesion in the corpus callosum. What is the most likely symptom?
A : Her left and right cerebral hemispheres are not able to effectively communicate.
B : She has difficulty breathing.
C : A severe movement disorder is beginning to emerge.
D : She has lost the ability to experience fear.

Correct Answer : A

185 : Which of the following scenarios is most likely when a person with a split brain is shown an object in his right visual field?
A : The patients right hemisphere processes the information.
B : The patient can identify the object by touch.
C : The patient can say the name of the object.
D : The patient sees nothing.

Correct Answer : C

186 : When Jack, a patient with a split brain, is shown pictures of objects in his left visual field, he can frequently identify the object by touch, even though he cannot name the object verbally. This illustrates
A : the importance of the right hemisphere in producing language.
B : the importance of the left hemisphere in processing tactile stimulation.

C : the importance of the left hemisphere in producing language.
D : the normalcy of information processing in split-brain patients.

Correct Answer : C

187 : Phineas Gage showed severe personality changes following an accident that damaged his
A : temporal cortex.
B : hypothalamus.
C : prefrontal cortex.
D : cerebellum.

Correct Answer : C

188 : Many higher mental functions are performed in the
A : somatosensory cortex.
B : corpus callosum.
C : prefrontal cortex.
D : motor cortex.

Correct Answer : C

189 : The story of Phineas Gage demonstrates that
A : a persons personality changes if the frontal lobe is damaged.
B : a person cannot live if the frontal lobe is damaged.
C : a person cannot walk if the frontal lobe is damaged.
D : a person cannot communicate if the frontal lobe is damaged.

Correct Answer : A

190 : The brains ability to adapt and reorganize itself following trauma or surgical alteration is referred to as
A : aphasia.
B : plasticity.
C : lateralization.
D : concordance.

Correct Answer : B

191 : What do the nervous system and endocrine system have in common?
A : They are both communication systems.
B : They both release hormones into the bloodstream.
C : They both control voluntary actions.
D : They are both involved in perception and emotion.

Correct Answer : A

192 : Regarding the relationship between the nervous system and the endocrine system, which of the following statements is best described as NOT true?
A : The systems are integrated, in that the brain regulates the activity of the endocrine system.
B : Both are considered communication systems.
C : The endocrine system functions at a slower pace than the nervous system.
D : Both convey their messages through a network of nerves.

Correct Answer : D

193 : Which of the following is a hormone involved in regulating blood sugar levels?
A : Noradrenaline
B : Insulin
C : Adrenaline
D : Glucose

Correct Answer : B

194 : Releasing factors are secreted by the
A : hypothalamus.
B : pituitary gland.
C : pineal gland.
D : pancreas.

Correct Answer : A

195 : Which of the following is best described as the master gland because it affects so many bodily processes?
A : The pineal
B : The pituitary
C : The adrenals
D : The thyroid

Correct Answer : B

196 : Juan eats a meal full of sugar and starches. In response, insulin is released into the bloodstream which stimulates his cells to draw more glucose from his blood. This decreases the level of glucose in Juans body and, eventually, the secretion of insulin is reduced. Juans endocrine system is engaging in which process?
A : Plasticity
B : Homeostasis
C : Concordance
D : Lateralization

Correct Answer : B

197 : How does the endocrine system communicate with the body?
A : By secreting glucose
B : By regulating body processes
C : By creating neural impulses
D : By conveying messages through nerves

Correct Answer : B

198 : Thirteen-year-old Michael is starting to notice the growth of hair on his face and a change in his voice. Michaels testes are releasing
A : testosterone.
B : estrogen.
C : progesterone.
D : cortical steroids.

Correct Answer : A

199 : The hypothalamus is important for all of these reasons EXCEPT
A : it causes the pituitary gland to release hormones.
B : it is involved in regulating a persons physical growth.
C : it controls the parts of the brain that regulate breathing, heart rate, and blood pressure.
D : it causes the testes to release hormones.

Correct Answer : C

200 : Which of the following is a hormone produced by the pancreas?
A : Testosterone
B : Insulin
C : Progesterone
D : Oxytocin

Correct Answer : B

201 : The endocrine system is directly involved with
A : movement and balance.
B : pleasure and pain.
C : growth and metabolism.
D : hearing and taste.

Correct Answer : C

202 : The endocrine system releases chemical messengers into the
A : blood.
B : nervous system.
C : cerebrospinal fluid.
D : bodys sensory organs.

Correct Answer : A

203 : Melatonin plays a role in regulating
A : glucose.
B : releasing factors.
C : growth hormones.
D : sleep.

Correct Answer : D

204 : Which hormone stimulates the adrenal cortex to secrete other hormones that promote muscle development?
A : Melatonin
B : Epinephrine
C : ACTH
D : Progesterone

Correct Answer : C

205 : The pineal gland releases

A : ACTH.
B : melatonin.
C : epinephrine.
D : insulin.

Correct Answer : B

206 : All of the following are released by the adrenal glands EXCEPT
A : norepinephrine.
B : cortical steroids.
C : adrenaline.
D : melatonin.

Correct Answer : D

207 : The male sex hormones are produced by the
A : testes.
B : thyroid gland.
C : adrenal glands.
D : pineal gland.

Correct Answer : A

208 : The _____ releases cortical steroids.
A : pineal gland
B : thyroid gland
C : adrenal gland
D : hypothalamus

Correct Answer : C

209 : Muscle development is promoted by the
A : thyroid gland.
B : adrenal gland.
C : hypothalamus.
D : pancreas.

Correct Answer : B

210 : Male sex hormones are called
A : progesterone.
B : estrogen.
C : oxytocin.
D : testosterone.

Correct Answer : D

211 : Which of the following pairs of chemicals function as both neurotransmitters and hormones?
A : Estrogen and progesterone
B : Insulin and melatonin
C : Norepinephrine and epinephrine
D : ACTH and cortical steroids

Correct Answer : C

212 : Which of the following is most directly related to aggressive behavior?
A : Insulin
B : Melatonin
C : Testosterone
D : Progesterone

Correct Answer : C

213 : Charlize is excessively anxious and irritable. Charlize probably has an excess of which type of hormone?
A : Thyroxin
B : Melatonin
C : ACTH
D : Insulin

Correct Answer : A

214 : Regarding premenstrual syndrome (PMS), which of the following statements is NOT true?
A : About 75% of women experience some form of premenstrual syndrome.
B : PMS involves physical as well as psychological symptoms.
C : PMS is caused ultimately by an imbalance of hormones.
D : Some research has linked PMS to disturbances in the functioning of serotonin.

Correct Answer : C

215 : Which of the following is the best definition of genotype?
A : Structures in a cells nucleus
B : Physical and behavioral characteristics
C : A trait influenced by multiple genes
D : An organisms genetic code

Correct Answer : D

216 : Humans have _____ chromosomes.
A : 23 pairs of
B : 23
C : 2
D : 30,000 to 40,000

Correct Answer : A

217 : Regarding the genome research, which of the following statements is NOT true?
A : Scientists have decoded the human genome.
B : The focus today in gene research is understanding how genes work and identifying specific genes involved in various disorders.
C : Most psychologists today agree that both heredity and environment interact to shape human behavior and mental processes.
D : No two people share the same genetic code.

Correct Answer : D

218 : Which of the following is the contemporary version of the naturenurture debate?
A : How can we eliminate nature from the naturenurture debate?
B : How can we eliminate nurture from the naturenurture debate?
C : What is the relative contribution of nature and nurture?
D : How can we control the naturenurture debate?

Correct Answer : C

219 : All of the following characteristics are influenced by both nature and nurture EXCEPT
A : disposition.
B : shyness.
C : eye color.
D : intelligence.

Correct Answer : C

220 : Jason is shy, and his parents have become overprotective. Research examining the relationship between genetics and shyness indicates that
A : Jason is likely to become more shy.
B : Jason is likely to become less shy.
C : Jason is likely to outgrow his natural shyness over time.
D : the parents actions are likely to have relatively little influence on Jasons genetically determined shyness.

Correct Answer : A

221 : A familial association study focuses on the degree
A : of environmental similarity between twins raised apart.
B : to which adopted children share the same characteristics as their adoptive parents.
C : to which the same disorders or characteristics are shared among family members.
D : to which family members have different traits or characteristics.

Correct Answer : C

222 : Twenty-three-year-old Thomas was recently diagnosed with schizophrenia. Familial association studies suggest that which of Thomass relatives is most likely to also have schizophrenia?
A : One of his parents
B : One of his grandparents
C : His older brother
D : His identical twin

Correct Answer : D

223 : In twin studies, the percentages of cases in which both members of twin pairs share the same trait or disorder is known as the
A : genotype.
B : concordance rate.
C : polygenic trait rate.
D : heritability rate.

Correct Answer : B

224 : In a twin study, an investigator compares _____ of fraternal and identical twins.
A : intelligence
B : genome
C : concordance rates
D : adoptive parents

Correct Answer : C

225 : Which type of study provides the clearest way to address the naturenurture question?
A : Adoptee study
B : Split-brain study
C : Familial association study
D : Human genome study

Correct Answer : A

226 : Adoptee studies are used to
A : examine similarities between adopted children and nonadopted children.
B : examine similarities between adopted children and their biological or adoptive parents.
C : measure the genetic similarity between adopted children.
D : examine similarities between adopted children and the general population.

Correct Answer : B

ESSAY

227 : Explain the roles of the four main components of a neuron.

Correct Answer : There are four main components to a neuron: Dendrites receive information from other neurons. The soma (cell body) handles basic metabolic functioning of the neuron and contains the neuron’s genetic instructions. The axon carries neural impulses to the terminal buttons. The terminal buttons release neurotransmitters to carry neural messages to adjacent neurons.

228 : Explain how information is communicated between neurons.

Correct Answer : When the action potential reaches the end of the axon, chemicals called neurotransmitters are released. These chemicals travel across the synapse, the tiny space between neurons. They attach to receptors on the dendrites of adjacent neurons. The neurotransmitters create a slight change in the charge of the receiving neuron (making it slightly more positive and increasing the likelihood that it will generate an action potential, or making it slightly more negative and reducing the likelihood that it will generate an action potential).

229 : Summarize the basic subdivisions in the organization of the nervous system.

Correct Answer : The nervous system is composed of the central nervous system (CNS) and the peripheral nervous system (PNS). The CNS contains the brain and spinal cord. The PNS consists of the somatic nervous system and the autonomic nervous system. The somatic system conveys information between the CNS and sense organs and muscles. The autonomic nervous system (ANS) controls internal bodily processes such as the heartbeat and respiration.

The ANS contains two divisions, the sympathetic and parasympathetic nervous system. The sympathetic division speeds up most bodily processes and releases energy. The parasympathetic division helps the body replenish stores of energy.

230 : Outline the structure and functions of the cerebral cortex.

Correct Answer : The cerebral cortex has a left and right hemisphere, each of which contains four primary divisions, or lobes. The two hemispheres are connected by a broad band of fibers called the corpus callosum. The frontal lobes at the front act as the central executive that involves higher functions such as problem solving and decision making. The motor cortex in the frontal lobes contains neurons that control voluntary muscle movement. The parietal lobes are located on the sides of the brain. At the front of the parietal lobes is the somatosensory cortex, which processes sensations from the parts of the body. At the rear of the brain are the occipital lobes, which process visual information. At the side of the brain are the temporal lobes, where auditory information is received and processed.

231 : Summarize the major recording and imaging techniques used to study the brain.

Correct Answer : An electroencephalograph (EEG) records the electrical activity of the brain using electrodes attached to the scalp. This provides a rather general measure of the brain's activity. A computed tomography (CT) scan uses a computer to measure X-rays that are passed through the brain at various angles. This provides a three-dimensional view of the structures within the brain and can identify any irregularities. A positron emission tomography (PET) scan measures the metabolism of a radioactive isotope in the brain. The pattern of accumulation provides insight into which part of the brain is most active under certain conditions. Magnetic resonance imaging (MRI) can provide detailed images of brain structures by examining signals emitted by atoms in the brain that have been disturbed by a strong magnetic force. A new type of MRI, functional MRI, provides information about the functions of brain structures.

232 : Discuss what scientists know about hemispheric lateralization.

Correct Answer : The brain consists of a left and a right hemisphere. The major connection between the two hemispheres is the corpus callosum. One general principle is that the right half of the brain receives information from and sends information to the left half of the body. The left half of the brain receives information from and sends information to the right half of the body. Additionally, it appears that there is some hemispheric specialization of function. For example, the left hemisphere, in most people, is responsible for language functions (speaking, reading, and writing). It is also the left hemisphere that is primarily involved in logic, problem solving, and mathematical calculations. The right hemisphere is specialized for nonverbal functions. This includes spatial processing, facial and emotional recognition, and artistic/creative processes.

233 : Describe the major functions of at least three of the endocrine system glands discussed in your textbook.

Correct Answer : The pancreas produces insulin, which regulates blood glucose levels. The hypothalamus secretes a variety of hormones known as releasing factors, which cause the pituitary and other glands to release their hormones. The pituitary gland produces growth hormone, which promotes growth in the body. It produces oxytocin, which is involved in regulating contractions during childbirth and the release of milk during nursing. It also releases hormones that regulate the functioning of other glands. The pineal gland releases melatonin, which regulates sleep-wake cycles. The adrenal glands produce cortical steroids, promoting muscle development and stimulating the liver to release stored sugar when we experience stress. The adrenal gland also releases epinephrine and norepinephrine, which help the body to

prepare for stressful situations. The gonads produce estrogen, progesterone, and testosterone, which serve a variety of purposes, such as promoting the development of secondary sex characteristics and regulating the menstrual cycle. Testosterone, in particular, also seems to influence aggressive behavior in humans and sexual responsiveness. The thyroid gland produces hormones that help regulate metabolism.

234 : Describe three types of kinship studies.

Correct Answer : Familial association studies involve an analysis of shared traits or disorders among family members based on their degree of kinship. For example, in examining a family tree, one might discover that the more closely related people are, the more likely they are to have a particular trait. These studies provide supportive evidence of genetic contributions to traits or disorders. Twin studies involve the analysis of difference in the rates of overlap (or concordance) for a given trait or disorder between identical and fraternal twins. These studies provide strong evidence of genetic factors when concordance rates are higher among identical than fraternal twins. Adoptee studies involve the analysis of similarity in traits or disorders between adoptees and their biological and adoptive parents or between identical twins raised apart versus together. This is the clearest way to establish the role of heredity versus environment. If concordance is greater with traits or disorders exhibited by the adoptive parents, environmental influences are indicated. If concordance is greater with traits or disorders exhibited by the biological parents, genetic factors are indicated. These studies may not control for the effects of common environmental factors, such as shared environments shortly after birth or ongoing relationships between the twins.