

CHAPTER 2
COGNITIVE NEUROSCIENCE
TEST BANK

Multiple Choice

1. Which of the following comprise the forebrain?
 - a. corpus callosum, cerebellum, and cerebral cortex
 - b. hippocampus, medulla, pons, and thalamus
 - c. cerebral cortex, basil ganglia, the limbic system, thalamus, and hypothalamus
 - d. amygdala, reticular activating system, and corpus callosumANS: c. REF: Forebrain DIF: Moderate MSC: TYPE: Factual

2. The basal ganglia of the forebrain are crucial to
 - a. motor function.
 - b. hearing.
 - c. sleeping and waking.
 - d. regulating behavior necessary for species survival.ANS: a REF: Motor Function Physiology DIF: Easy MSC: TYPE: Factual

3. The limbic system is responsible for
 - a. memory retrieval.
 - b. relaying sensory information.
 - c. emotion, motivation, and learning.
 - d. motor information.ANS: c REF: Limbic System DIF: Easy MSC: TYPE: Factual

4. All of the following are central interconnected cerebral structures of the limbic system *except* the
 - a. primary motor cortex.
 - b. septum.
 - c. amygdala.
 - d. hippocampus.ANS: a REF: Limbic System DIF: Moderate MSC: TYPE: Factual

5. Dysfunction of the basal ganglia is known to cause
 - a. visual agnosia.
 - b. semantic memory loss.
 - c. fear.
 - d. motor deficits.ANS: d REF: Basal Ganglia DIF: Hard MSC: TYPE: Factual NOT: WWW

6. Which of the following processes would most likely involve the limbic system?
 - a. Bill stretches his arms high into the air.
 - b. Bill feels very nervous about the upcoming exam.

- c. Bill solves a physics problem.
- d. Bill feels an acute pain in his wrist.

ANS: b REF: Limbic System DIF: Moderate MSC: TYPE: Application

7. When the area of the forebrain known as the amygdala is stimulated, what reactions are likely to result?

- a. palpitations, fearful hallucinations, frightening flashbacks in memory
- b. dizziness, headache, loss of consciousness
- c. insomnia, inability to concentrate, restlessness
- d. intense concentration

ANS: a REF: Amygdala DIF: Moderate MSC: TYPE: Application

8. The _____ and _____ play a role in anger, aggression, and fear.

- a. amygdala; hippocampus
- b. septum; amygdala
- c. hippocampus; septum
- d. primary motor cortex; septum

ANS: b REF: Septum and Amygdala DIF: Moderate MSC: TYPE: Factual

9. Which of the following would most likely involve the use of the septum?

- a. Mike is scared by a man pointing a knife at him.
- b. Mike remembered a man that had pointed a knife at him.
- c. Mike sees a man who is pointing a knife at him.
- d. Mike sees a photo of a man pointing a knife at a woman.

ANS: a REF: Septum DIF: Moderate MSC: TYPE: Application

10. Which of the following would involve activity in the amygdala?

- a. Wilma sees a cute cat.
- b. Wilma remembers her wedding day.
- c. Wilma gets angry at a dog after it ate her purse.
- d. Wilma leans over to pet a large dog.

ANS: c REF: Amygdala Function DIF: Easy MSC: TYPE: Application

11. The _____ is responsible for the formation of new memories.

- a. thalamus
- b. hippocampus
- c. hypothalamus
- d. aphasia

ANS: b REF: Hippocampus Function DIF: Easy MSC: TYPE: Factual

12. Damage to the hippocampus can result in “loss of memory function” in which old information is still able to be recalled, but the individual is unable to form new memories.

This is known as

- a. Benzine syndrome.
- b. apraxia.
- c. aphasia.
- d. Korsakoff’s syndrome.

ANS: d

REF: Korsakoff's Syndrome

DIF: Hard

MSC: TYPE: Factual

13. Disruption in the hippocampus does *not* seem to result in deficits of what kind of memory?
- declarative memory
 - short-term memory
 - procedural memory
 - long-term memory
- ANS: c REF: Hippocampus Function DIF: Moderate MSC: TYPE: Conceptual
14. Jennifer has damage to a certain area of her brain. She can remember people and events from long ago, but she cannot remember where she ate lunch today. Judging by her symptoms, Jennifer probably has damage to the
- hypothalamus.
 - hippocampus.
 - thalamus.
 - corpus callosum.
- ANS: b REF: Hippocampus DIF: Moderate MSC: TYPE: Application
15. This area of the brain is known to sort information and send it to appropriate areas in the cerebral cortex.
- hippocampus.
 - basil ganglia.
 - amygdala.
 - thalamus.
- ANS: d REF: Thalamus Function DIF: Moderate MSC: TYPE: Factual
16. This particular part of the brain is responsible for regulating behavior that is important for the survival of the organism (e.g., fighting, feeding, fleeing, and mating) and “regulating emotions and reactions to stress.”
- hypothalamus
 - thalamus
 - pons
 - limbic system
- ANS: a REF: Hypothalamus Function DIF: Easy MSC: TYPE: Factual
17. Although the midbrain is not as important in mammals as in nonmammals, it is significant in that it houses the reticular activating system, which is essential in regulating
- consciousness, heartbeat, and breathing.
 - bodily coordination, balance, and muscle tone.
 - breathing, swallowing, and digestion.
 - the signals passing from one part of the brain to another.
- ANS: a REF: Midbrain DIF: Easy MSC: TYPE: Factual NOT:
WWW

18. Physicians make a determination of brain death based on the degree of function of the
- midbrain.
 - brain stem.
 - medulla oblongata.
 - cerebellum.

ANS: b REF: Brain Stem Function DIF: Moderate MSC: TYPE: Application

19. The _____, located in the hindbrain, is responsible for controlling the heartbeat, and to some extent, breathing, swallowing, and digestion.

- pons
- cerebellum
- cerebral cortex
- medulla oblongata

ANS: d REF: Medulla Oblongata DIF: Moderate MSC: TYPE: Factual

20. This particular part of the hindbrain “contains neural fibers that pass signals from one part of the brain to another” and thus serves as a relay station.

- medulla oblongata
- pons
- cerebellum
- limbic system

ANS: b REF: Pons Function DIF: Moderate MSC: TYPE: Factual

21. This part of the hindbrain is responsible for “coordination, balance, and muscle tone,” and also includes memory related to procedural movements.

- hypothalamus
- amygdala
- septum
- cerebellum

ANS: d REF: Cerebellum DIF: Easy MSC: TYPE: Factual NOT: WWW

22. A code blue has just been announced in a hospital. A patient has stopped breathing. Doctors and medics are rushed to the scene and quickly determine that brain death has not yet occurred. How did the medics know whether the patient was brain dead or not?

- They found that there was still activity in the frontal lobe of the patient’s brain.
- Once breathing stops, brain death occurs.
- They found that there was still activity in the brain stem.
- They found that the pons was still active.

ANS: c REF: Brain Stem Activity DIF: Moderate MSC: TYPE: Conceptual

23. How would someone determine whether there was a possibility of a problem in the function of a patient's medulla oblongata?

- a. The patient might be experiencing both short-term and long-term memory loss.
- b. The patient might not be able to sense pain or pressure.
- c. The patient might display irregular aggression patterns.
- d. The patient might experience heartbeat irregularity and possible breathing problems.

ANS: d REF: Medulla Oblongata DIF: Moderate MSC: TYPE: Conceptual

24. Sonia lays in a hospital bed unable to wakeup. Scans of her brain show damage to the ____ which is important for regulating overall level of consciousness/arousal.

- a. corpus callosum
- b. white matter
- c. reticular activating system
- d. medulla oblongata

ANS: c REF: Reticular Activating System DIF: Moderate MSC: TYPE: Application

25. The convolutions of the cerebral cortex comprise _____, which are small grooves; _____, which are raised areas or bulges; and _____, which are large grooves.

- a. sulci; fissures; gyri
- b. fissures; sulci; gyri
- c. gyri; fissures; sulci
- d. sulci; gyri; fissures

ANS: d REF: Cortex Convolutions DIF: Moderate MSC: TYPE: Conceptual

26. The cerebral cortex is

- a. the main lobe of the forebrain.
- b. the bridge between the left and the right hemispheres of the brain.
- c. a one- to three-millimeter-thick layer that covers the surface of the brain.
- d. a layer, covering the surface of the brain, that comprises about 60% of the brain.

ANS: c REF: Cerebral Cortex Structure DIF: Easy MSC: TYPE: Factual

27. The cerebral cortex is often referred to as _____, whereas the nerve fibers of the brain's interior are often called _____.

- a. contralateral; ipsilateral
- b. gray matter; white matter
- c. ipsilateral; contralateral
- d. white matter; gray matter

ANS: b REF: Cerebral Cortex DIF: Easy MSC: TYPE: Factual NOT: WWW

28. _____ refers to transmission of information to the opposite side, whereas _____ refers to transmission to the same side.

- a. Contralateral; ipsilateral
- b. Occipital; frontal
- c. Ipsilateral; contralateral
- d. Parietal; temporal

ANS: a REF: Information Transfer DIF: Moderate MSC: TYPE: Conceptual

29. Most motor information transmission is

- a. parietal.
- b. contralateral.
- c. ipsilateral.
- d. occipital.

ANS: b REF: Motor Information Transfer DIF: Hard MSC: TYPE: Factual

30. The corpus callosum serves to

- a. make certain contralateral transmissions ipsilateral.
- b. regulate the transmission of information along the cerebral cortex.
- c. allow transmission of information between the left and right hemispheres.
- d. transmit information from the left and right hemispheres to the spinal cord.

ANS: c REF: Corpus Callosum DIF: Easy MSC: TYPE: Factual

31. There are two radio stations, one receiving signals from the western hemisphere and one receiving signals from the eastern hemisphere. A cable connects the two stations so that signals sent out from one half of the world can be transmitted to the other half. This cable is analogous to the brain's

- a. corpus callosum.
- b. cerebral cortex.
- c. white matter.
- d. medulla oblongata.

ANS: a REF: Corpus Callosum DIF: Easy MSC: TYPE: Conceptual

32. The two halves of the brain, which rely on the corpus callosum for communication, are called

- a. cerebral hemispheres.
- b. lobes.
- c. contralateral.
- d. split brain.

ANS: a REF: Hemispheres DIF: Easy MSC: TYPE: Factual NOT: WWW

33. Marc Dax noticed a relationship between the loss of speech and the side of the brain in which damage had occurred in patients suffering from

- a. prosopagnosia.
- b. aphasia.
- c. ablation.
- d. schizophrenia.

ANS: b REF: Aphasia DIF: Moderate MSC: TYPE: Factual

34. Paul Broca believed that

- a. localization of function does not exist.
- b. the left hemisphere of the brain is critical to normal speech function.
- c. the right hemisphere of the brain is critical to normal speech function.
- d. neither hemisphere of the brain is critical to normal speech function.

ANS: b REF: Broca's Area DIF: Moderate MSC: TYPE: Factual

35. Karl Lashley concluded that localization of specific memories
- a. can be demonstrated through the use of a large variety of techniques.
 - b. can be demonstrated only by using incision.
 - c. can be demonstrated only by using ablation.
 - d. cannot be demonstrated.

ANS: d REF: Localized Representations: Lashley DIF: Moderate
MSC: TYPE: Factual

36. This particular part of the left hemisphere of the brain appears to contribute to language comprehension.
- a. Dax's area
 - b. Wernicke's area
 - c. Lashley's area
 - d. Boca's area

ANS: b REF: Wernicke's Area DIF: Easy MSC: TYPE: Factual

37. Split-brain patients sometimes have difficulty reconciling information that is _____ (largely localized in the left hemisphere) with information that is _____ (generally localized in the right hemisphere).
- a. verbal; spatial
 - b. spatial; verbal
 - c. visual; auditory
 - d. tactile; olfactory

ANS: a REF: Hemispheric Specialization DIF: Moderate
MSC: TYPE: Conceptual

38. Which abilities have been found to be localized on the right side of the brain for most split-brain patients?
- a. the ability to follow conversations or stories
 - b. language functions
 - c. skilled movement
 - d. finding patterns

ANS: a REF: Hemispheric Specialization DIF: Hard MSC: TYPE: Conceptual

39. The approach to studying the brain in order to understand what specific part of the brain controls what specific skills or behaviors is called _____.
- a. synthesis
 - b. localization of function
 - c. ecological validity
 - d. lobotomy

ANS: b REF: Study of Brain Areas and Functions DIF: Moderate
MSC: TYPE: Factual

40. What percentage of the population has language functions predominantly localized in the left hemisphere of the brain?

- a. 100
- b. 90
- c. 50
- d. 20

ANS: b REF: Language Lateralization DIF: Hard MSC: TYPE: Factual

41. When viewing a picture that is half one person's face and half another person's face, a split brain patient would

- a. ask why you are showing her half of two different faces.
- b. say the image portrays the whole face of whomever is depicted on the right side.
- c. point to the image of the whole face of whomever is depicted on the right side.
- d. simply be unable to answer.

ANS: b REF: Split-Brain Patients DIF: Moderate MSC: TYPE: Factual

42. Juan suffers from a disorder of skilled movements, which is known as

- a. dyslexia.
- b. aphasia.
- c. apraxia.
- d. agnosia.

ANS: c REF: Apraxia DIF: Moderate MSC: TYPE: Factual

43. This research is well known for his work with split-brain patients.

- a. Lashley
- b. Broca
- c. Gazzaniga
- d. All of the above have worked with split-brain patients.

ANS: c REF: Split-Brain Patients DIF: Moderate MSC: TYPE: Factual

44. This particular way of looking at the brain divides up the cerebral hemisphere into four parts called

- a. lobes.
- b. hemispheric specialization.
- c. in vivo technique.
- d. split brain.

ANS: a REF: Brain Lobes DIF: Moderate MSC: TYPE: Factual NOT: WWW

45. The frontal lobe is responsible for

- a. sensing pain and pressure.
- b. visual processing.
- c. auditory processing.
- d. higher thought processes and motor processing.

ANS: d REF: Frontal Lobe DIF: Easy MSC: TYPE: Factual

46. Which of the following would most involve the use of the frontal lobe?

- a. Tia sees her finger in a nutcracker.
- b. Tia feels incredible pain when she gets her finger caught in a nutcracker.
- c. Tia hears a nutcracker closing.
- d. Tia considers how to use an oddly designed nutcracker to crack a nut.

ANS: d REF: Frontal Lobe DIF: Moderate MSC: TYPE: Conceptual

47. The parietal lobe is primarily responsible for

- a. planning and execution of movement.
- b. somatosensory processing.
- c. auditory processing.
- d. visual processing.

ANS: b REF: Parietal Lobe DIF: Easy MSC: TYPE: Factual NOT: WWW

48. The main functions of the temporal and occipital lobes, respectively, are

- a. visual processing and auditory processing.
- b. execution of movement and sensing texture.
- c. auditory processing and visual processing.
- d. somatosensory processing and visual processing.

ANS: c REF: Temporal and Occipital Lobes DIF: Easy MSC: TYPE: Factual

49. Tom puts his hand on a warm stove burner and senses the heat coming from the stove. The message of warmth travels from his hand to which lobe of the brain?

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

ANS: b REF: Parietal Lobe DIF: Moderate MSC: TYPE: Application

50. Mary wakes up in the middle of the night to hear a loud thump coming from the stairway. She then hears creaking and a voice whispering. Her _____ lobe makes it possible for her to hear that there are burglars in her house.

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

ANS: c REF: Temporal Lobe DIF: Moderate MSC: TYPE: Application

51. Joe is walking around a room completely in the dark. He cannot see anything. When he feels the doorknob with his hand, he pulls the door open. What location in the brain most directly enabled him to accomplish what he attempted?

- a. the temporal lobe
- b. the occipital lobe
- c. the parietal lobe
- d. the cerebral fissures

ANS: c. REF: Parietal Lobe DIF: Moderate MSC: TYPE: Application

52. This part of the brain, located in the frontal lobe, is important for controlling movement. It is responsible for planning and executing movement especially for movements including a delayed response.

- a. primary visual cortex
- b. the cerebral fissures
- c. primary auditory cortex
- d. primary motor cortex

ANS: d REF: Primary Motor Cortex DIF: Easy MSC: TYPE: Factual

53. The parietal lobe contains the _____, which is the part of the brain that the various senses provide information to concerning “pressure, texture, temperature, and pain.”

- a. association areas
- b. primary motor cortex
- c. primary somatosensory cortex
- d. primary visual cortex

ANS: c REF: Primary Somatosensory Cortex DIF: Moderate
MSC: TYPE: Factual

54. Although the brain makes up only one fortieth of the total weight of the adult human body, it uses _____ of the circulating blood, available oxygen, and available glucose.

- a. one-thirtieth
- b. one-twentieth
- c. one-tenth
- d. one-fifth

ANS: d REF: Brain Resource Use DIF: Hard MSC: TYPE: Factual

55. These cells in the brain transmit electrical signals from one location to another in the nervous system.

- a. amygdala
- b. dopamine receptor
- c. metabolic
- d. neuron

ANS: d REF: Neuron Definition DIF: Easy MSC: TYPE: Factual

56. The junction between terminal buttons of one neuron with the dendrites of other neurons.

- a. synapse
- b. terminal button
- c. nodes of ranvier
- d. synaptic terminal

ANS: a REF: Synapse Definition DIF: Easy MSC: TYPE: Factual

57. At the end of the branches of an axon are the _____, which look like small knobs.
- terminal buttons
 - synapse
 - nodes of ranvier
 - synaptic terminal
- ANS: a REF: Terminal Buttons DIF: Easy MSC: TYPE: Factual
58. Signals between neurons occur when these chemical messengers transmit information from one neuron to the next across the synaptic gap.
- synapse
 - hormones
 - neurotransmitters
 - neurobinders
- ANS: c REF: Neurotransmitters DIF: Easy MSC: TYPE: Factual
59. Identify the three types of chemical substance that are involved in neurotransmission:
- monoamine neurotransmitters, amino-acid neurotransmitters, neurobinders.
 - monoamine neurotransmitters, amino-acid neurotransmitters, neuropeptides.
 - amino-acid neurotransmitters, neurobinders, cerebropeptides.
 - monoamine neurotransmitters, neuropeptides, neurobinders.
- ANS: b REF: Chemicals in Neurotransmission DIF: Hard MSC: TYPE: Factual
60. Adrian has Alzheimer's and has a difficult time with his memory. The doctors say that his memory difficulties in part are due to the low levels of _____.
- acetylcholine
 - dopamine
 - dratonin
 - serotonin
- ANS: a REF: Acetylcholine and Alzheimer's DIF: Moderate
MSC: TYPE: Application
61. This particular neurotransmitter is associated with attention, reward and reinforcement, learning, and motivational processes.
- acetylcholine
 - dopamine
 - GABA
 - serotonin
- ANS: b REF: Dopamine Function DIF: Moderate MSC: TYPE: Factual
62. This particular neurotransmitter is important for regulating impulsivity and is associated with eating behavior, and aggressive behavior.
- acetylcholine
 - dopamine
 - GABA
 - serotonin
- ANS: d REF: Serotonin Function DIF: Moderate MSC: TYPE: Factual

63. Kent has been living on the street and using heroin for at least 5 years. It is likely he has
- acute toxicity
 - chronic toxicity
 - few neurotransmitters
 - an overactive amygdala
- ANS: b REF: Chronic Toxicity DIF: Moderate MSC: TYPE: Conceptual
64. This technique has been used for centuries in which researchers document the behaviors of individuals thought to have brain damage and then after the person dies, they examine the brain for lesions.
- postmortem studies
 - in vivo techniques
 - ipsilateral transmission
 - brain damage analysis (BDA)
- ANS: a REF: Postmortem Studies DIF: Easy MSC: TYPE: Factual
NOT: WWW
65. Which of the following is *not* an *in vivo* technique for viewing the structures and functions of the brain?
- Recording the electrical activity of the brain
 - Still-imaging of the brain (e.g., CT scan, MRI scan)
 - Examining how radioactive material is transported and used in the brain
 - Dissecting the brain to locate possible lesions
- ANS: d REF: Dissection DIF: Moderate MSC: TYPE: Conceptual NOT: WWW
66. Tan, a patient of Broca's who had severe speech problems, was capable of uttering only one syllable "Tan" (hence the name). After Tan's death, examination of his brain revealed a number of lesions in the frontal lobe. It was ascertained from this that parts of the frontal lobe are important for speech production. Gathering knowledge from someone about brain function after death with known difficulties would be an example of
- Broca's technique.
 - Brain Capacity Functional Analysis.
 - in vivo techniques.
 - postmortem studies.
- ANS: d. REF: Postmortem Studies DIF: Easy MSC: TYPE: Application
67. Derrick has a number of electrodes attached to his head. He is probably about to participate in a study involving use of
- fMRI.
 - ERPs.
 - PET.
 - CT scan.
- ANS: b. REF: ERP Method DIF: Easy MSC: TYPE: Application

68. This technique of studying the living brain is based on examining the recording of the electrical frequencies and intensities of the brain over time.

- a. Electrical Recording Technique (ERT)
- b. Lobotomy
- c. Electroencephalograms (EEGs)
- d. Magnetic Resonance Imaging (MRI)

ANS: c REF: EEG Method DIF: Easy MSC: TYPE: Factual

69. These techniques for studying the brain obtain a still image that can help with “revealing the structures of the brain.”

- a. Electrical Recording Techniques (ERT)
- b. Brain Structure Enhancements (BSE)
- c. Static Imaging Techniques
- d. Magnetic Recognition Enhancements (MRE)

ANS: c REF: Static Imaging DIF: Moderate MSC: TYPE: Factual

70. This static imaging technique uses a strong magnetic field to analyze “magnetic changes in the energy of the orbits of nuclear particles in the molecules of the body. ”

- a. Magnetic Resonance Imaging (MRI)
- b. Brain Structure Enhancement (BSE)
- c. Electrical Recording Technique (ERT)
- d. Magnetic Recognition Enhancement (MRE)

ANS: a REF: MRI Method DIF: Moderate MSC: TYPE: Factual

71. These techniques take advantage of the brain’s consumption of glucose or oxygen and specifically look for which part of the brain is most active “during more generalized processing.” The active part of the brain would require more resources than inactive areas.

- a. Glucose Metabolism Tomography (GMT)
- b. Metabolic Imaging
- c. Electrical Recording Technique (ERT)
- d. Static Imaging Techniques

ANS: b REF: Metabolic Imaging DIF: Moderate MSC: TYPE: Factual
NOT: WWW

72. This particular type of metabolic imaging technique uses a radioactive form of glucose “that emits positrons as it is metabolized” to look at the physiological functioning of the brain “in action.” It monitors increase in blood flow to particular parts of the brain.

- a. Electroencephalograms (EEGs)
- b. Glucose Metabolism Tomography (GMT)
- c. Positron emission tomography (PET)
- d. ERPs

ANS: c REF: PET Method DIF: Moderate MSC: TYPE: Factual

73. This particular neuroimaging technique is able to look at changes in the brain over time by looking at increases in oxygen consumption to produce an image of the brain.

- a. Functional Magnetic Resonance Imaging (fMRI)
- b. Magnetic Resonance Imaging (MRI)
- c. Positron Emission Tomography (PET)
- d. ERPs

ANS: a REF: fMRI Method DIF: Moderate MSC: TYPE: Factual

74. This particular technique for studying the brain temporarily disrupts normal activity of the brain in a very small area. This is done by placing a coil on the person's head and passing a current through it.

- a. electroencephalograms (EEGs)
- b. transcranial magnetic stimulation (TMS)
- c. magnetic resonance imaging (MRI)
- d. magnetoencephalography (MEG)

ANS: b REF: TMS Method DIF: Hard MSC: TYPE: Factual

75. Activity of the brain is study outside of the head by this particular technique in which the magnetic fields emitted by changes in brain activity is picked up.

- a. transcranial magnetic stimulation (TMS)
- b. functional magnetic resonance imaging (fMRI)
- c. electroencephalograms (EEGs)
- d. magnetoencephalography (MEG)

ANS: d REF: MEG Method DIF: Hard MSC: TYPE: Factual

76. This type of disorder is caused by an interruption in the flow of blood to the brain and often contributes to noticeable loss in cognitive functioning.

- a. vascular disorder
- b. aphasic stroke
- c. dratonin
- d. neoplasms

ANS: a REF: Vascular Disorder DIF: Moderate MSC: TYPE: Factual

77. Cognitive function can be affected by brain tumors which can occur in either the gray or white matter of the brain. Another name for a brain tumor is

- a. septum.
- b. neoplasm.
- c. pons.
- d. apraxia.

ANS: b REF: Neoplasm: Brain Tumor DIF: Hard MSC: TYPE: Factual

78. This type of stroke is due to a fatty tissue that has built up over years and then breaks free and then becomes lodged in an artery in the brain.

- a. neoplasms
- b. hemorrhagic stroke
- c. aphasic stroke
- d. ischemic stroke

ANS: d REF: Ischemic Stroke DIF: Moderate MSC: TYPE: Factual

79. This type of stroke is due to a blood vessel in the brain suddenly breaking and filling the surrounding tissue with blood which contributes to cells dying.

- a. ischemic stroke
- b. neoplasms
- c. hemorrhagic stroke
- d. aphasic stroke

ANS: c REF: Hemorrhagic Stroke DIF: Moderate MSC: TYPE: Factual

80. Many soldiers are returning from the war with closed-head injuries. What has occurred?

- a. Skull damage occurred and harmed a portion of the brain.
- b. No skull damage occurred, but soldiers were harmed psychologically.
- c. No skull damage occurred but there is damage to the brain.
- d. The damage has occurred over time.

ANS: c REF: Closed-Head Injuries DIF: Moderate MSC: TYPE: Conceptual

Essay

1. List the three main regions of the brain. Next, under each heading, list the significant structures located in each region, and give a short description of the functions of each structure.
ANS: Answer not provided NOT: WWW
2. Explain the concept of hemispheric specialization. Include in your discussion a description of the abilities of each hemisphere and the role of the corpus callosum.
ANS: Answer not provided NOT: WWW
3. Explain the importance of the various chemical substances involved in neurotransmission.
ANS: Answer not provided
4. List and describe the function of the various neuronal structures.
ANS: Answer not provided
5. Describe the different types of strokes and the impact they have on the brain.
ANS: Answer not provided
6. How can researchers trace observed behavior resulting from brain damage to a certain location in the brain once a patient has died? Contrast this method with other methods used while the patient is alive.
ANS: Answer not provided NOT: WWW
7. Suppose that a large, parasitic microorganism entered the human blood stream and traveled up to the brain, but was blocked from entering. Why did the microorganism not pass into the brain? What structure blocked its entry? Compare this structure with the structure that links both brain hemispheres.
ANS: Answer not provided
8. An epileptic patient has had her corpus callosum severed. The patient has been asked to draw a three-dimensional form with her left hand. The patient is successful. However, when asked to draw the same object with the right hand, the patient was not able to perform the task successfully. Why not?
ANS: Answer not provided
9. Explain the similarities and differences between the various types of metabolic imaging techniques. Include in your explanation when you might use one over another.
ANS: Answer not provided
10. You have just stepped on a nail protruding from the floor. Describe the various processes involved in relaying information from the time you step on the nail to the time you pull your foot away. Be sure to include effectors and receptors in your discussion.
ANS: Answer not provided

11. Each of the four lobes of the brain is responsible for the processing of different information. Give an example of a task or activity that would require the use of at least three of the lobes. In describing the task, make sure you show how each of the lobes is involved.
ANS: Answer not provided NOT: WWW
12. Imagine that you were a doctor in “the old days” (prior to the invention of the various *in vivo* techniques). First, list a number of cognitive problems that you could study (e.g., Korsakoff’s syndrome, aphasia, apraxia, case studies like Phineas Gage), then describe how you would use postmortem studies in understanding these various cognitive problems. Include in your discussion the various behaviors of interest. Also, from a scientific standpoint how would you increase the confidence of your findings?
ANS: Answer not provided
13. Imagine that the brain had no hemispheric specialization and no modularity. What would be the implications for such a brain (include issues such as learning, brain damage, brain development, etc.)?
ANS: Answer not provided
14. Explain how the brain might work if all neurotransmitters were nonexistent and it was based simply on which neurons were firing. What would be the implications for a brain that functioned so?
ANS: Answer not provided
15. Generate various scenarios in which an individual has a head injury from say a car accident (include injuries from front, back, top, and the sides). Include both closed and open-head injuries and describe how the injuries would alter function.
ANS: Answer not provided
16. As part of a research project for a biological psychology class, you are assigned to work with experienced researchers who have access to equipment that allows you to study the human brain. Describe two *in vivo* techniques and how they would allow you to learn about the human brain.
ANS: Answer not provided
17. How can the study of the brain have applications for improving human welfare?
ANS: Answer not provided NOT: WWW
18. What parts of the brain are used while playing football, and how are they used?
ANS: Answer not provided
19. From both a research and medical diagnostic viewpoint, explain the significance of Brodmann areas.
ANS: Answer not provided

20. You are a biological psychologist and you must figure out what symptoms or effects certain diseases have on each of your participants. One participant has Korsakoff's syndrome, one is a split-brain patient, and the third has had an ischemic stroke. Briefly explain the effects or accompanying symptoms of each of these people.

ANS: Answer not provided

