- **1 1) The nonspecific ascending pathways _____.**

  A) are evolutionarily newer than the specific pathways
  B) receive inputs from a single type of sensory receptor
  C) are involved in the emotional aspects of perception
  D) are also called the lemniscal system
  Answer: C

- **2) The suprachiasmatic nucleus is found in the _____.**

  A) pons
  B) thalamus
  C) hypothalamus
  D) medulla
  Answer: C

- **3) Nuclei of cranial nerves V, VI, and VII are found in the _____.**

  A) midbrain
  B) medulla
  C) pons
  D) cerebrum

  Answer: C

  4) The arbor vitae refers to _____.

  A) cerebellar gray matter
  B) cerebellar white matter
  C) the pleatlike convolutions of the cerebellum
  D) flocculonodular nodes
  Answer: B

- **5) The brain stem consists of the _____.**

  A) cerebrum, pons, midbrain, and medulla
  B) midbrain, medulla, and pons
  C) pons, medulla, cerebellum, and midbrain
  D) midbrain only
  Answer: B

- **6) The primary auditory cortex is located in the _____.**

  A) prefrontal lobe
  B) frontal lobe
  C) temporal lobe
  D) parietal lobe
  Answer: C

- **7) Spinocerebellar tracts _____.**

  A) terminate in the spinal cord
  B) carry proprioceptive inputs to the cerebellum
  C) give rise to conscious experience of perception
  D) are found in the dorsal columns of the spinal cord
  Answer: B

8) The spinal cord has gray matter on the _____.

A) outside, white matter on the inside, and a dorsal motor root
B) inside, white matter on the outside, and a ventral motor root
C) inside, white matter on the outside, and a dorsal motor root
D) outside, white matter on the inside, and a ventral motor root
Answer: B
9) The subarachnoid space lies between what two layers of meninges?

A) arachnoid and epidura
B) arachnoid and pia
C) arachnoid and dura
D) dura and epidura
Answer: B
10) The vital centers for the control of heart rate, respiration, and blood pressure are located in the
_____.

A) pons
B) medulla
C) midbrain
D) cerebrum
Answer: B
11) Cell bodies of the sensory neurons of the spinal nerves are located in _____.

A) the dorsal root ganglia of the spinal cord
B) the ventral root ganglia of the spinal cord
C) the thalamus
D) sympathetic ganglia
Answer: A
12) The fissure separating the cerebral hemispheres is the _____.

A) central fissure
B) longitudinal fissure
C) parieto-occipital fissure
D) lateral fissure
Answer: B
13 13) The limbic association area of the multimodal association areas provides our _____.

A) emotional impact
B) working memory
C) recall and personality
D) learning abilities
Answer: A
14 14) A shallow groove on the surface of the cortex is called a _____.

A) sulcus
B) fissure
C) gyrus
D) furrow Answer: A
15 15) The cerebrospinal fluid _____.

A) is secreted by the arachnoid villi
B) enters the four ventricles after filling and circulating through the subarachnoid space

C) is secreted mostly by the neuroglia cells lining the brain ventricles
D) is formed mostly by the choroid plexuses and modified by ependymal cells
Answer: D
16 16) If the posterior portion of the neural tube failed to develop properly _____.

A) the spinal cord may be affected
B) the cranial nerves would not form
C) the hindbrain would not be present
D) the telencephalon would cease development Answer: A
17 17) The central sulcus separates which lobes?

A) frontal from parietal
B) parietal from occipital
C) temporal from parietal
D) frontal from temporal Answer: A
18 18) Neural tracts that convey life-saving information to the brain concerning burning pain would be _____.

A) anterior spinothalamic
B) reticulospinal
C) lateral spinothalamic
D) posterior spinothalamic Answer: C
19 19) Which of these would you not find in the cerebral cortex?

A) cell bodies
B) dendrites
C) unmyelinated axons
D) fiber tracts Answer: D
20 20) The hypothalamus _____.

A) is the thermostat of the body since it regulates temperature
B) is an important auditory and visual relay center
C) has the Pulvinar body as part of its structure
D) mediates sensations Answer: A
21 21) The white matter of the spinal cord contains _____.

A) myelinated nerve fibers only
B) unmyelinated nerve fibers only
C) myelinated and unmyelinated nerve fibers
D) soma that have both myelinated and unmyelinated nerve fibers Answer: C
22 22) A lateral tract in the spinal cord would be _____.

A) rubrospinal
B) vestibulospinal
C) tectospinal
D) pyramidal Answer: A
23 23) An individual accidentally transected the spinal cord between T1 and L1. This would result in _____.

A) paraplegia
B) hemiplegia
C) quadriplegia
D) spinal shock only Answer: A
24 24) Spastic paralysis suggests involvement of the _____.

A) upper motor neurons
B) lower motor neurons
C) spinal nerve roots
D) neuromotor junction Answer: A
25 25) Ridges of tissue on the surface of the cerebral hemispheres are called _____.

A) gyri
B) sulci
C) fissures
D) ganglia Answer: A
26 26) The frontal lobe is separated from the temporal lobe by the _____.

A) longitudinal fissure
B) lateral sulcus
C) central sulcus
D) cranial fossa Answer: B
27 27) Brodmann's numbering refers to _____.

A) molecular weight of types of neurons
B) counts of neurons per fiber bundle
C) structurally distinct cortical areas
D) rates of neural division in embryogenesis Answer: C
28 28) Two terms for the massive motor tracts serving voluntary movement are _____.

A) pyramidal and corticospinal
B) extrapyramidal and rubrospinal
C) segmental and nigrostriatal
D) supplementary and cerebellar-pontine Answer: A
29 29) An individual who could trace a picture of a bicycle with his or her finger but could not
recognize it as a bicycle is most likely to have sustained damage to the _____.

A) calcarine cortex
B) primary visual area
C) visual association area
D) lateral geniculate body Answer: C
30 30) Broca's area _____.

A) corresponds to Brodmann's area 8
B) is usually found in the right hemisphere
C) serves the recognition of complex objects
D) is considered a motor speech area Answer: D
31 31) The function of commissures is to connect _____.

A) adjacent areas of gray matter within a cerebral hemisphere
B) corresponding areas of the two hemispheres
C) areas of cortex with lower centers
D) pyramidal cells with corresponding cerebellar cells Answer: B
32 32) The blood-brain barrier is effective against _____.

A) metabolic waste such as urea
B) nutrients such as glucose
C) alcohol
D) anesthetics Answer: A

33 33) Which of the following is not part of the basal nuclei?

A) putamen
B) lentiform nucleus
C) globus pallidus
D) substantia nigra Answer: D
34 34) All of the following are structures of the limbic system except the _____.

A) hippocampus
B) cingulate gyrus
C) amygdaloid nucleus
D) caudate nucleus Answer: D
35 35) Which of the following is not a midbrain structure?

A) third ventricle
B) cerebral peduncles
C) corpora quadrigemina
D) red nucleus Answer: A
36 36) The process of linking new facts with old facts already stored in the memory bank is called _____.

A) consolidation
B) automatic memory
C) long-term memory
D) rehearsal Answer: A
37 37) An electroencephalogram _____.

A) is a record of total body electrical activity
B) indicates a normal frequency range of 1-30 Hz
C) indicates an average amplitude of 20-100 V
D) can only detect abnormal electrical activity Answer: B
38 38) The brain area that regulates activities that control the state of wakefulness or alertness of the cerebral cortex is the _____.

A) thalamus
B) reticular formation
C) pyramids
D) limbic system Answer: B
39 39) Which of the following would you not find in normal cerebrospinal fluid?

A) glucose
B) red blood cells
C) potassium
D) protein Answer: B
40 40) REM sleep is associated with _____.

A) decreased vital signs, such as heart rate and blood pressure
B) decreased activity of the brain, especially the cerebral cortex
C) temporary skeletal muscle inhibition except for the extrinsic eye muscles
D) decreased oxygen use, especially in the cerebral cortex Answer: C
41 41) Mr. Hom was injured in an accident that completely severed his spinal cord at the level of T12.
You would expect to find all of the following except _____.

A) paralysis of the lower extremities
B) loss of sensation below the level of injury
C) slurred speech
D) perspiration in the affected area Answer: C
42 42) Injury to the hypothalamus may result in all of the following except _____.

A) pathologic sleep
B) loss of body temperature control
C) production of excessive quantities of urine
D) loss of proprioception Answer: D
43 43) White matter of the spinal cord _____.

A) is composed of myelinated fibers only
B) ascends to higher PNS centers
C) has afferent fibers carrying impulses from peripheral sensory receptors
D) contains the anterior and posterior spinocerebellar tracts Answer: D
44 44) Which statement about aging is most accurate?

A) The brain reaches its maximum weight around the seventh decade of life.
B) Synaptic connections are too fixed to permit a great deal of learning after the age of 35.
C) Despite some neuronal loss, changing synaptic connections support additional learning
throughout life.
D) Learning throughout the adult and aging years is supported primarily by glial proliferation Answer: C
45 45) Which association regarding the function and location of the cerebrum is most accurate?

A) sensory-anterior
B) motor-medial
C) sensory-medial
D) motor-anterior Answer: D
46 46) Brain wave amplitude _____.

A) reflects the number of neurons firing synchronously
B) is an average of about 1 V
C) results from subtraction of delta waves from theta waves
D) is the measure of activity of specific individual neurons Answer: A
47 47) Declarative memory is not stored in the _____.

A) hippocampus
B) amygdala
C) thalamus
D) mammillary body Answer: D
48 48) Huntington's disease _____.

A) begins to appear at ages 10 to 15
B) has symptoms that are the opposite of Parkinson's disease
C) usually subsides by ages 35 to 40
D) may be a result of a defective 26th chromosome Answer: B
49 49) The corpus striatum plays a special role in _____.

A) face recognition
B) fact learning
C) spatial learning

D) skill learning Answer: D
50 50) Storing information in long-term memory _____.

A) depends on the remaining capacity of long-term memory
B) is interfered with by emotional arousal
C) is facilitated by the release of norepinephrine
D) is always dependent on the formation of conscious impressions Answer: C
51 51) Important nuclei of the indirect (multineural) system that receive impulses from the
equilibrium apparatus of the inner ear and help to maintain balance by varying muscle tone of
postural muscles are the _____.

A) red nuclei
B) vestibular nuclei
C) reticular nuclei
D) superior colliculi Answer: B
52 52) Which of the following structures is probably not directly involved in memory?

A) hippocampus
B) medulla
C) amygdala
D) prefrontal cortex Answer: B
53 53) The area of the cortex that is responsible for sensations of the full bladder and the feeling that
your lungs will burst when you hold your breath too long is the _____.

A) olfactory cortex
B) gusatory cortex
C) vestibular cortex
D) visceral sensory area Answer: D
54 54) Which statement about coma is true?

A) Coma is defined as total unresponsiveness to stimuli for a long period of time.
B) During coma, brain oxygen consumption resembles that of a waking state.
C) Coma is neurologically identical to syncope.
D) Coma is rarely caused by damage to brain stem structures. Answer: A
55 55) Tremor at rest, shuffling gait, stooped posture, and expressionless face are characteristics of
_____.

A) Huntington's disease
B) Parkinson's disease
C) cerebellar disease
D) spinal cord disease Answer: B
56 56) Which is the mildest consequence of traumatic brain injury?

A) contusion
B) concussion
C) hemorrhage
D) swelling Answer: B
57 57) Declarative memory _____.

A) is the ability to learn specific information
B) is best remembered in the doing
C) is hard to unlearn when learned once

D) usually involves motor skills Answer: A
58 58) Which of the following is/are involved with motor activity (either initiation or coordination)?

A) postcentral gyrus
B) gustatory cortex
C) red nuclei
D) Wernicke's area Answer: C
59 59) Which statement is not true?

A) Sleep requirements decline from infancy to early adulthood, level off, then decline again
in old age.
B) Half of infant sleep is composed of REM sleep.
C) Ten-year-olds are in REM sleep about 1.5-2 hours per night.
D) Stage 4 sleep increases in old age. Answer: D
60 60) Which statement about epilepsy is most accurate?

A) During seizures, sensory messages are processed normally but responses are blocked.
B) Petit mal epilepsy typically begins in adolescence and is often severely disabling.
C) Epilepsy is often genetically induced but also frequently caused by head trauma, stroke,
infection, and tumor.
D) The aura in grand mal epilepsy typically occurs as the patient regains consciousness. Answer: C
61 61) White matter (myelinated fibers) is found in all of the following locations, with the exception
of the _____.

A) corpus callosum
B) cerebral cortex
C) corticospinal tracts
D) outer portion of the spinal cord Answer: B
62 62) Second-order neurons of both the specific and nonspecific ascending pathways terminate in
the _____.

A) spinal cord
B) medulla
C) thalamus
D) somatosensory cortex Answer: C
63 63) Loss of ability to perform skilled motor activities such as piano playing, with no paralysis or
weakness in specific muscles, might suggest damage to the _____.

A) spinal cord
B) premotor cortex
C) primary motor cortex
D) rubrospinal tracts Answer: B
64 64) _____ waves are not normal for awake adults but are common for children.

A) Alpha
B) Beta

C) Delta
D) Theta Answer: D