AP Psychology
Chapter 3 Test

Please make all marks on the Scan-Tron provided.
Multiple Choice

1. In the opening vignette, the 5 million people who had fallen ill at the beginning of the 20th century suffered from:
   A) a lack of L-dopa
   B) excessive amounts of testosterone
   C) a testosterone deficiency
   D) Parkinson's disease

2. The purpose of discussing the encephalitis lethargica epidemic was to demonstrate:
   A) how culture influences behavior
   B) how the nervous system underlies all psychological activity
   C) the importance of environment on thinking
   D) all of the above

3. The fundamental unit of the nervous system is:
   A) DNA
   B) genetics
   C) the neuron
   D) the soma

4. Which one is NOT a type of neuron?
   A) sensory
   B) motor
   C) interneuron
   D) cognitive

5. Information is sent to the brain via the sensory or _____ neurons.
   A) afferent
   B) motor
   C) transient
   D) inter

6. Information is sent to the muscles and glands of the body via efferent or _____ neurons.
   A) sensory
   B) afferent
   C) motor
   D) transient
7. Interneurons are responsible for
   A) transmitting information from sensory cells in the body to the brain
   B) transmitting commands from the brain to the glands or musculature of the body
   C) connecting other neurons to each other
   D) communicating between musculature in the body

8. The part of the neuron that receives information from other cells is the:
   A) dendrites
   B) myelin sheath
   C) nodes of Ranvier
   D) axon

9. The part of the neuron that includes a nucleus containing the genetic material of the cell is known as the
   A) cell body
   B) myelin sheath
   C) axon
   D) dendrite

10. The long extension from the cell body whose central function is to transmit information to other neurons is(are) the:
    A) dendrites
    B) myelin sheath
    C) nodes of Ranvier
    D) axon

11. The part of the neuron that is a fatty layer, that is wrapped around the axon, and that increases the speed of transmission is the:
    A) dendrites
    B) myelin sheath
    C) nodes of Ranvier
    D) axon

12. Multiple sclerosis is a disorder that involves problems with the
    A) dendrites
    B) myelin sheath
    C) synapses
    D) axon

13. The neuron ends with the _____ whose function is to send signals from one neuron to the adjacent neurons.
    A) dendrites
    B) nodes of Ranvier
    C) myelin sheath
    D) terminal buttons
14. Terminal buttons are important because they
   A) receive nerve impulses from the axon and transmit signals to adjacent cells
   B) directly touch the next neuron to send a signal
   C) protect the axon from the synaptic cleft
   D) insulate the axon from stimuli that might interfere with the transmission of nerve impulses

15. The gap or space between neurons is referred to as a/an:
   A) interneuron
   B) synapse
   C) glial cell
   D) inter-space

16. Neurons send signals by
   A) tapping on the terminal buttons of the next neuron
   B) releasing a chemical that alters the electrical charge of the next neuron
   C) activating the glial cells
   D) creating a picture in the brain

17. When a neuron is at rest, the cell has a charge that is said to be:
   A) polarized
   B) hyperpolarized
   C) hypopolarized
   D) neutral

18. The resting potential of a neuron refers to
   A) the types of neurotransmitters contained within the neuron
   B) the lowest possible charge that the neuron can achieve
   C) the highest possible charge that the neuron can achieve
   D) the condition in which the neuron is not firing

19. The electrical difference between the inside and outside of a resting neuron is:
   A) 20 millivolts
   B) -110 millivolts
   C) 120 millivolts
   D) 70 millivolts

20. Which of the following is NOT a characteristic of a graded potential?
   A) strength diminishes as the graded potential travels
   B) graded potentials are cumulative or additive
   C) the membrane has an electrical potential of +40 mV
   D) none; all of the above are characteristics of graded potentials
21. Which of the following is associated with ‘firing’ of the neuron?
   A) resting potential  
   B) graded potential  
   C) action potential  
   D) absolute potential

22. The part of the axon that involves small sacs that contain neurotransmitters is called:
   A) synaptic cleft  
   B) synaptic vesicles  
   C) interneuron  
   D) dendrites

23. Chemicals that transmit information from one cell to another are called:
   A) synthetic proteins  
   B) axonal transients  
   C) neurotransmitters  
   D) electrochemicals

24. What causes the neurotransmitters to be released into the synaptic cleft?
   A) the release of axonal transients  
   B) the firing of the dendrites  
   C) the closing of the Na-K ion pumps  
   D) the firing of the presynaptic neuron

25. Which neurotransmitters depolarize the postsynaptic membrane?
   A) inhibitory  
   B) excitatory  
   C) modulating  
   D) synaptic

26. Inhibitory neurotransmitters:
   A) affect the pre-synaptic neuron  
   B) facilitate transmission at the synapse  
   C) increase the number of receptor sites  
   D) hyperpolarize the post-synaptic neuron

27. There are two types of neurotransmitters. They are:
   A) inhibitory and synaptic  
   B) modulating and excitatory  
   C) inhibitory and excitatory  
   D) modulating and synaptic
28. The neurotransmitter that has the capability of exciting nearly every neuron in the nervous system and appears to be involved in learning is:
   A) glutamate
   B) dopamine
   C) GABA
   D) epinephrine

29. People with excessive levels of glutamate are likely to experience
   A) depression or anxiety
   B) schizophrenia
   C) sleeplessness and aggression
   D) tingling and numbness

30. All of a sudden you go through some significant physiological changes. One of the changes is that you no longer produce any glutamate. Which one of the following would most likely happen to you?
   A) you would become incredibly stressed
   B) you would find no joy in life
   C) your sex drive would be destroyed
   D) you would flunk out of college since you couldn't learn new information for the exams

31. GABA is a(n):
   A) excitatory neurotransmitter
   B) flavor enhancer
   C) inhibitory neurotransmitter
   D) educational hormone

32. The neurotransmitter that regulates anxiety and that is used by about one-third of all the neurons in the brain is:
   A) glutamate
   B) dopamine
   C) GABA
   D) epinephrine

33. People with excessive levels of GABA are likely to experience
   A) anxiety
   B) trouble with voluntary movement
   C) sleeplessness and aggression
   D) excessive pain sensitivity
34. Thoughts, feelings, motivation, behavior, and schizophrenia are all thought to be affected by levels of:
   A) glutamate
   B) dopamine
   C) GABA
   D) acetycholine

35. People with excessive levels of dopamine are likely to experience
   A) depression or anxiety
   B) schizophrenia
   C) sleeplessness and aggression
   D) excessive pain sensitivity

36. Some neural pathways that rely on dopamine are involved in:
   A) emotional arousal
   B) the experience of pleasure
   C) the association of particular behaviors with rewards
   D) all of the above

37. The function of the blood-brain barrier is to:
   A) protect the brain from foreign substances
   B) filter neurotransmitters from glandular production
   C) allow hormones but not neurotransmitters to contact the brain
   D) keep neurotransmitters from flowing out of the brain

38. Which one of the following is affected by serotonin?
   A) mood
   B) sleep
   C) eating
   D) all of the above

39. People who do not have sufficient serotonin in the brain are likely to experience
   A) tingling and numbing of body parts
   B) uncontrollable tremors and difficulty with initiating movements
   C) restlessness and high arousal
   D) depression and anxiety

40. Selective serotonin reuptake inhibitors (SSRI's) block the reuptake of serotonin by the presynaptic membrane. Which one of the following is NOT an SSRI?
   A) Zoloft
   B) Paxil
   C) Prozac
   D) L-dopa
41. Memory and learning are associated most with which neurotransmitter?
   A) acetylcholine
   B) endorphins
   C) morphine
   D) dopamine

42. People who do not have sufficient acetylcholine in the brain are likely to experience
   A) elevated mood and reductions in pain sensation
   B) uncontrollable tremors and difficulty with initiating movements
   C) difficulty with learning and memory
   D) depression and anxiety

43. Chemicals that elevate mood and reduce pain are referred to as:
   A) acetylcholine
   B) endorphins
   C) dopamine
   D) serotonin

44. Narcotics work because they are chemically very similar to:
   A) endorphins
   B) hormones
   C) secretions
   D) GABA

45. I like to build things and, while I am cutting a piece of wood with an electric saw, I
    accidentally cut off the tip of my thumb. What would my reaction be if I did not have
    any endorphins?
    A) I would scream out and be in a huge amount of pain.
    B) I would not know what to do since my memory is impaired.
    C) I would fall asleep.
    D) I would keep on working since I no longer feel any pain.

46. The ______ nervous system is involved with sensory information and motor commands.
   A) autonomic nervous system
   B) central nervous system
   C) parasympathetic nervous system
   D) somatic nervous system

47. The somatic nervous system is involved with
   A) neurons that convey messages to and from the central nervous system
   B) messages between the brain and spinal cord
   C) controlling involuntary actions such as reflexes
   D) transmitting sensory information and controlling intentional actions
48. The somatic nervous system and autonomic nervous system are both part of the ______ nervous system.
   A) peripheral  
   B) central  
   C) autonomic  
   D) parasympathetic

49. The autonomic nervous system is involved with
   A) neurons that convey messages to and from the central nervous system  
   B) basic life processes such as the beating of the heart or breathing  
   C) controlling involuntary actions such as reflexes  
   D) transmitting sensory information and controlling intentional actions

50. The autonomic nervous system of a patient is no longer working for an unknown reason. What would this person be like?
   A) the patient would be dead since it controls things such as heart and lungs  
   B) the patient would be incapable of being in contact with the world about them and also be unable to move when they wanted to  
   C) the patient would be incapable of sleeping  
   D) the patient would find themselves incapable of staying awake

51. In an emergency situation, the adrenal glands of the body secrete ‘emergency’ hormones while the _____ nervous system prepares the body for fight or flight.
   A) sympathetic  
   B) parasympathetic  
   C) somatic  
   D) central

52. The sympathetic and parasympathetic nervous systems:
   A) have essentially the same functions but use different pathways to accomplish them  
   B) operate in reciprocal fashion to achieve proper functional behaviors under their control  
   C) are unrelated in function  
   D) are both part of the somatic nervous system

53. If I am sitting around watching television, what part of the autonomic nervous system is involved?
   A) sympathetic nervous system  
   B) somatic nervous system  
   C) parasympathetic nervous system  
   D) all of the above
54. The oldest technology for studying the brain is:
   A) CT scan
   B) PET
   C) MRI
   D) EEG

55. Which technique involves injecting radioactive glucose into the bloodstream in order to see which parts of the brain are active?
   A) fMRI
   B) CT scan
   C) PET
   D) EEG

56. Which of the following is not a neuroimaging technique?
   A) PET
   B) EEG
   C) CT scan
   D) MRI

57. Which of the following will allow a researcher to observe the brain in action?
   A) PET
   B) CLU
   C) CT scan
   D) MRI

58. The fMRI can be used to determine
   A) the activity in the brain involved in different types of cognitive tasks
   B) the best problem solving strategies
   C) the magnetic characteristics of various brain structures
   D) if cancer is present in the brain

59. Bundles of axons outside the spinal cord are referred to as:
   A) nerves
   B) tracts
   C) fibers
   D) ganglia

60. The bundles of axons inside the spinal cord are referred to as:
   A) nerves
   B) tracts
   C) fibers
   D) ganglia
61. The 31 pairs of specialized nerves in the brain are referred to as:
   A) cranial nerves
   B) basal ganglia
   C) CET nerves
   D) trigeminal nerves

62. The hindbrain includes all of the following except the:
   A) medulla oblongata
   B) pons
   C) cerebellum
   D) hypothalamus

63. This link between the spinal cord and the brain is involved in heartbeat, circulation, and respiration. This link is the:
   A) medulla oblongata
   B) pons
   C) cerebellum
   D) reticular formation

64. As I am falling asleep, the activity level of the _____ is decreasing. If the activity level is decreased due to damage, I may end up in a coma.
   A) medulla oblongata
   B) pons
   C) cerebellum
   D) reticular formation

65. Alcohol interferes with movement and fine motor coordination because it affects a person’s
   A) medulla oblongata
   B) pons
   C) cerebellum
   D) reticular formation

66. One of the most important functions of the hypothalamus is:
   A) processing visual information
   B) maintaining consciousness
   C) maintaining homeostasis
   D) relaying information to the cortex

67. All of the information that I see, hear, taste, and feel is processed by, and relayed to, the higher brain centers by the:
   A) hypothalamus
   B) thalamus
   C) limbic system
   D) basal ganglia
68. The amygdala seems to be important in:
   A) eating and drinking
   B) fear responses
   C) sound localization
   D) approach behavior

69. There are a number of songs, movies, places, and events that remind me of my first true love. Which subcortical structure is likely to be involved in recall of emotionally significant events?
   A) hypothalamus
   B) thalamus
   C) limbic system
   D) amygdala

70. When you study for an exam (i.e., when you try to intentionally store and recall information), you are making use of the:
   A) hypothalamus
   B) thalamus
   C) limbic system
   D) hippocampus

71. Which of the following is associated with the basal ganglia?
   A) Parkinson's disease
   B) encephalitis lethargica
   C) understanding the meaning of what is seen or heard
   D) all of the above

72. How thick is the cerebral cortex?
   A) 3 mm
   B) 21 mm
   C) 121 mm
   D) 14 cm

73. Which is a function of the cerebral cortex?
   A) allows flexible construction of sequences of voluntary movements
   B) it permits subtle discriminations among complex sensory patterns
   C) it makes symbolic thinking possible
   D) all of the above

74. The semester is almost over and I find myself making a plan for what to do over the break. I find it is a detailed and very intricate process. I have come up with several ideas and plans for the break. It is likely that I have made use of the _____ area.
   A) primary
   B) secondary
   C) association
   D) tertiary
75. The cerebral cortex is divided into two roughly symmetrical halves called:
   A) lobes
   B) cerebral bispheres
   C) cerebral hemispheres
   D) corpus callosums

76. The two halves of the cerebral cortex are connected by the:
   A) fissure
   B) deep sulcus
   C) gyri
   D) corpus callosum

77. As I watch the sun rise or as I look at a painting, the _____ lobe is the most active.
   A) frontal
   B) temporal
   C) parietal
   D) occipital

78. The part of the cerebral cortex that receives sensory information from different sections of the body is the:
   A) motor homunculus
   B) occipital lobe
   C) frontal lobe
   D) somatosensory cortex

79. The part of the cerebral cortex that is involved in coordination of movement, abstract thinking, and social skills is the:
   A) parietal lobe
   B) frontal lobe
   C) temporal lobe
   D) motor cortex

80. The ability to speak grammatically requires a fully functioning _____ area.
   A) Broca's
   B) Wernicke's
   C) Orlacchio's
   D) Gazzaniga's

81. Listening to songs on the radio or to the sound of the ocean requires the use of which lobe?
   A) frontal
   B) temporal
   C) parietal
   D) occipital
82. My ability to understand what other people are saying to me is a function of ______ area.
   A) Broca's
   B) Wernicke's
   C) Orlacchio's
   D) Gazzaniga's

83. The fact that language is located more in the left hemisphere is an example of:
   A) the split-brain phenomenon
   B) a malfunctioning corpus callosum
   C) lateralization
   D) all of the above

84. For most right-handed people, the right hemisphere tends to be dominant for:
   A) forming visual maps of the environment
   B) face recognition
   C) music recognition
   D) all of the above

85. The _____ is the basic unit of hereditary transmission.
   A) allele
   B) gene
   C) chromosome
   D) phenotype

86. If two alleles are identical, the genotype is:
   A) heterozygous
   B) homozygous
   C) one of linkage
   D) an example of the degree of relatedness

87. If two alleles are different, the genotype is:
   A) heterozygous
   B) homozygous
   C) one of linkage
   D) an example of the degree of relatedness

88. Twins that come from the same sperm and egg are referred to as _____ twins.
   A) dizygotic
   B) monozygotic
   C) homozygous
   D) heterozygous
89. Twins that come from the union of two sperm with two separate eggs are referred to as ____ twins.
   A) dizygotic
   B) monozygotic
   C) homozygous
   D) heterozygous

90. A heritability coefficient of 0.97 is obtained. What would you conclude?
   A) the trait is almost entirely genetically determined
   B) the trait is almost entirely environmentally determined
   C) the trait is equally influenced by genes and environment
   D) something is very wrong

91. Which of the following appears to have a genetic influence?
   A) vocational interests
   B) level of job satisfaction
   C) likelihood of divorce
   D) all of the above

92. A change in gene frequencies within a given population over many generations is the definition of:
   A) speciation
   B) evolution
   C) heterogeneity
   D) genetic diversity

93. The theory of evolution by natural selection as written in the book, *The Origin of Species*, was proposed by:
   A) Michael Orlacchio
   B) Charles Darwin
   C) Rene Descartes
   D) Aristotle

94. The idea that human behavior must be understood in the context of evolutionary and adaptive significance is known as
   A) evolutionary theory
   B) natural selection
   C) behavioral genetics
   D) evolutionary adaptation

95. The idea that children are born ‘knowing’ the features that are universal to language was proposed by:
   A) Charles Darwin
   B) Noam Chomsky
   C) Albert Bandura
   D) Michael Orlacchio
96. The neural structures for acquiring language that children are born with are referred to as:
   A) neural networks
   B) species linguistic frames
   C) feature detectors
   D) language acquisition devices

97. Which of the following is one of the parts of the brain stem?
   A) forebrain
   B) midbrain
   C) hindbrain
   D) all of the above

98. The part of the brain used in complex thoughts is the:
   A) cerebellum
   B) cortex
   C) cerebrum
   D) corpus

99. The surface of the cerebrum is called the:
   A) cerebellum
   B) cortex
   C) cerebrum
   D) gyrations

100. Cloning humans has not been successful because of which one of the following?
    A) lack of technology
    B) lack of specific and clear understanding of how sperm fertilize an egg
    C) the failure of DNA to replicate
    D) none of the above; cloning has been successful