

Chapter 02 - The Systems of the Body

Chapter 02
The Systems of the Body

Multiple Choice Questions

1. (p. 15) _____ fibers provide input to the brain and spinal cord by carrying signals from receptors.

- A. Motor nerve
- B. Sensory nerve**
- C. Afferent
- D. Bast

Level: Factual

2. (p. 15) The somatic nervous system connects:

- A. the small intestine to the pancreas, and ensures the regulation of enzymes in the pancreas.
- B. the blood vessels to the lymph nodes to help in the formation of lymphocytes.
- C. nerve fibers to voluntary muscles, and provides the brain with feedback about its movement.**
- D. the central nervous system to all the internal organs that cannot be voluntarily controlled.

Level: Factual

3. (p. 15) The _____ nervous system helps to restore the body to a normal state after an emergency has passed.

- A. central
- B. sympathetic
- C. parasympathetic**
- D. somatic

Level: Factual

4. (p. 16) The _____ coordinates voluntary muscle movement, the maintenance of balance and equilibrium, and the maintenance of muscle tone and posture.

A. cerebral cortex

B. cerebellum

C. pons

D. medulla

Level: Factual

5. (p. 16) Damage to the cerebellum is associated with:

A. loss of muscle tone, and disturbances in posture.

B. alterations in the rate of breathing.

C. reduced blood flow to the left and right atriums.

D. hypersecretion of hydrochloric acid.

Level: Factual

6. (p. 16) The _____ is responsible for the coordination of visual and auditory reflexes.

A. thalamus

B. hindbrain

C. midbrain

D. hypothalamus

Level: Factual

7. (p. 16) Which of the following is a function of the hypothalamus?

A. It serves as a link between the hindbrain and the midbrain, and helps control respiration.

B. It is responsible for the regulation of heart rate, blood pressure, and respiration.

C. It assists in the recognition of sensory stimuli, and the relay of sensory impulses to the cerebral cortex.

D. It helps transit thoughts generated in the cerebral cortex, and assess their impact on internal organs.

Level: Conceptual

8. (p. 16) The _____ lobe contains the cortical areas which are responsible for auditory and olfactory impulses.

- A.** temporal
- B. occipital
- C. parietal
- D. frontal

Level: Factual

9. (p. 17) Epinephrine and norepinephrine are together termed as _____.

- A. acids
- B.** catecholamines
- C. platelets
- D. enzymes

Level: Factual

10. (p. 17) Which of the following bodily changes results from the release of catecholamines?

- A. Decreased heart rate
- B. Decrease in the amount of sweat produced
- C.** Increased rate of respiration
- D. Increase in the frequency of urination

Level: Conceptual

11. (p. 18) _____ is a chronic, nonprogressive disorder of the nervous system that is marked by the lack of muscle control.

- A. Epilepsy
- B. Parkinson's disease
- C. Multiple sclerosis
- D.** Cerebral palsy

Level: Factual

12. (p. 18) The gene for _____ disease has been identified by a test, which also roughly predicts the age when one will succumb to the disease.

- A. paraplegia
- B. Parkinson's
- C. epilepsy
- D.** Huntington's

Level: Factual

13. (p. 18) _____ is the paralysis of all four extremities, and the trunk of the body which occurs when the upper portion of the spinal cord is severed.

- A. Epilepsy
- B.** Quadriplegia
- C. Polio
- D. Paraplegia

Level: Factual

14. (p. 19) The posterior pituitary lobe produces _____ which controls contractions during labor and lactation.

- A.** oxytocin
- B. leptin
- C. ghrelin
- D. serotonin

Level: Factual

15. (p. 19) The _____ glands are located on top of each of the kidneys.

- A. pineal
- B. pituitary
- C. thyroid
- D.** adrenal

Level: Factual

16. (p. 19) Which of the following is commonly known as the disease of lifestyle?

- A. Dementia
- B. Type II diabetes**
- C. Type I diabetes
- D. Polio

Level: Conceptual

17. (p. 20) Which of the following functions is performed by the adrenal cortex in response to stress?

- A. There is a deregulation of sodium retention.
- B. The formation and inflammation of antibodies is encouraged.
- C. There is a decrease in the amount of energy stored in the body.
- D. There is an increase in protein and fat mobilization.**

Level: Conceptual

18. (p. 21) The right atrium and ventricle pump blood back to the lungs via the _____.

- A. mitral valve**
- B. capillaries
- C. aorta
- D. pulmonary artery

Level: Factual

19. (p. 21) _____ occurs when the heart has insufficient supply of oxygen, or adequate removal of carbon dioxide and other waste products.

- A. Angina pectoris**
- B. Myocardial infarction
- C. Arrhythmia
- D. Ischemia

Level: Factual

20. (p. 21) _____ occurs when a clot has developed in a coronary vessel, and blocks the flow of blood to the heart.

- A.** Myocardial infarction
- B. Angina pectoris
- C. Ischemia
- D. Glioblastoma

Level: Factual

21. (p. 22) Which of the following is a clinical manifestation of atherosclerosis?

- A. Lymphoma
- B. Lupus
- C.** Ischemia
- D. Appendicitis

Level: Conceptual

22. (p. 22) _____ fever is a bacterial infection that originates in the connective tissue, and can potentially affect the functioning of the heart valves.

- A. Pel-Ebstein
- B. Hay
- C. Yellow
- D.** Rheumatic

Level: Factual

23. (p. 22) An adult's body approximately contains _____ liters of blood.

- A. 9
- B. 7
- C. 3
- D.** 5

Level: Factual

24. (p. 22) Which of the following blood-forming cells produces platelets?

- A. Myeloblasts
- B. Megakaryocytes**
- C. Erythroblasts
- D. Lymphoblasts

Level: Conceptual

25. (p. 22) _____ results from below-normal numbers of red blood cells which interferes with its transportation.

- A. Peptic ulcer
- B. Anemia**
- C. Lupus
- D. Urticaria

Level: Factual

26. (p. 23) The _____ is a muscular tube that divides at its lower end into two branches called the primary bronchi.

- A. alveoli
- B. larynx
- C. pharynx
- D. trachea**

Level: Factual

27. (p. 23) The exchange of oxygen and carbon dioxide during respiration occurs between the:

- A. primary bronchi and the secondary bronchi.
- B. alveoli and the capillaries.**
- C. alveoli and the arteries.
- D. bronchioles and the arteries.

Level: Factual

28. (p. 23) Respiratory movements are controlled by a respiratory center in the _____.

- A. cerebellum
- B. cerebral cortex
- C.** medulla
- D. pons

Level: Factual

29. (p. 24) _____ is a seasonal allergic reaction to foreign bodies that enter the lungs.

- A. Pleurisy
- B. Pneumonia
- C. Asthma
- D.** Hay fever

Level: Factual

30. (p. 24) _____ accounts for 80 percent of all cases of chronic obstructive pulmonary disease.

- A. Hypertension
- B. Obesity
- C.** Smoking
- D. Alcoholism

Level: Factual

31. (p. 24) _____ is a secondary infection that may occur as a complication of other disorders, such as a severe cold or flu.

- A.** Bronchial pneumonia
- B. Asthma
- C. Meningitis
- D. Pleurisy

Level: Factual

32. (p. 25) The unidirectional muscular movement of a bolus through the esophagus, toward the stomach is known as _____.

- A. mononucleosis
- B. metastasis
- C. peristalsis**
- D. phagocytosis

Level: Factual

33. (p. 25) A critical function of the pancreas is the production of _____.

- A. leptin
- B. insulin**
- C. pepsin
- D. oxytocin

Level: Factual

34. (p. 25) Bile is stored in the _____, and is secreted into the duodenum when necessary.

- A. gallbladder**
- B. pancreas
- C. appendix
- D. rectum

Level: Factual

35. (p. 26) _____ is an open sore in the lining of the stomach or the duodenum.

- A. Hepatitis
- B. Gastroenteritis
- C. Peptic ulcer**
- D. Appendicitis

Level: Factual

36. (p. 26) Which of the following types of hepatitis is also known as serum hepatitis?

- A. Hepatitis A
- B.** Hepatitis B
- C. Hepatitis C
- D. Hepatitis E

Level: Conceptual

37. (p. 27) The smooth muscle tissue which acts as a reservoir for urine is called a _____.

- A. urethra
- B. kidney
- C. ureter
- D.** urinary bladder

Level: Factual

38. (p. 27) One of the chief functions of the kidneys is to:

- A. control the growth and secretion of the cortex region of the adrenal gland.
- B. control the chemical composition of blood.
- C. produce various gastric secretions.
- D.** control the water balance in the body.

Level: Factual

39. (p. 28) Estrogen is responsible for:

- A. the endometrial lining to move into the fallopian tube.
- B. the occurrence of menopause.
- C. preparing the body for pregnancy.
- D.** the development of secondary sex characteristics in females.

Level: Factual

40. (p. 28) _____ is produced by the interstitial cells of the testes under the control of the anterior pituitary lobe.

- A. Aldosterone
- B.** Testosterone
- C. Progesterone
- D. Estrogen

Level: Factual

41. (p. 29) _____ cancer is known to be the most lethal cancer that affects women.

- A. Vaginal
- B.** Ovarian
- C. Endometrial
- D. Cervical

Level: Factual

42. (p. 29) Some women usually choose to undergo _____ therapy to deal with the noxious symptoms that occur during menopause.

- A. aversion
- B.** hormone
- C. meso
- D. gene

Level: Factual

43. (p. 29) Genetic material for inheritance lies in the nucleus of the cell in the form of _____ chromosomes.

- A. 53
- B. 36
- C. 23
- D.** 46

Level: Factual

44. (p. 30) Which of the following diseases has a genetic basis?

- A. Hay fever
- B. Paraplegia
- C. Multiple sclerosis**
- D. Cerebral palsy

Level: Conceptual

45. (p. 31) _____ is an example of an environmentally transmitted disease.

- A. Shigellosis
- B. Yellow fever
- C. Herpes
- D. Influenza**

Level: Factual

46. (p. 31) Toxigenicity is the ability to:

- A. produce poisons which invade other parts of the body.**
- B. resist the body's defenses.
- C. produce white blood cells in the body.
- D. reduce the risk of potential genetic disorders.

Level: Factual

47. (p. 31) A localized infection:

- A. is confined to a particular site in the human body and does not spread.**
- B. is confined to a particular area, and sends toxins to other parts of the body.
- C. rarely affects the human body.
- D. affects several different areas or body systems.

Level: Factual

48. (p. 32) The largest group of cells involved in natural immunity is known as _____.

- A. lymphocytes
- B. oocytes
- C. osteocytes
- D.** granulocytes

Level: Factual

49. (p. 32) _____ release cytokines that lead to inflammation and fever, and promote wound healing.

- A.** Macrophages
- B. Lymphoblasts
- C. Neutrophils
- D. Megakaryocytes

Level: Factual

50. (p. 33) _____ prevent the passage of microbes from one section of the body to another.

- A. Phagocytosis
- B.** Anatomical barriers
- C. Antimicrobial substances
- D. Inflammatory responses

Level: Factual

51. (p. 33) _____ are chemicals produced by the body that kill invading microorganisms.

- A.** Antimicrobial substances
- B. Phagocytes
- C. Inflammatory responses
- D. Anatomical barriers

Level: Factual

52. (p. 34) _____ cells secrete chemicals that kill invading organisms and infected cells.

A. Eosinophil

B. Mast

C. T

D. B

Level: Factual

53. (p. 34) Which of the following bodily systems functions as the drainage system of the body?

A. The immune system

B. The lymphatic system

C. The endocrine system

D. The respiratory system

Level: Factual

54. (p. 35) _____ is a malignant lymphoma which involves the progressive, chronic enlargement of the lymph nodes, spleen, and other lymphatic tissue.

A. Parkinson's disease

B. Meningitis

C. Epilepsy

D. Hodgkin's disease

Level: Factual

55. (p. 35) In an autoimmune disease:

A. the treatment procedure is long-term, but it is easily curable.

B. the body fails to recognize the existence of a foreign substance until its severity increases.

C. certain white blood cells ingest microbes causing an infection.

D. the body recognizes its own tissue as a foreign invader, and produces antibodies to fight it.

Level: Factual

True / False Questions

56. (p. 15) Regulation of the autonomic nervous system occurs via the sympathetic nervous system and the parasympathetic nervous system.

TRUE

Level: Factual

57. (p. 15) The parasympathetic nervous system is activated in individual responses to stress.

FALSE

Level: Factual

58. (p. 16) The structures of the limbic system play an important role in emotion.

TRUE

Level: Factual

59. (p. 19) The endocrine system is responsible for fast-acting, short-duration responses to changes in the body.

FALSE

Level: Factual

60. (p. 21) The two primary clinical manifestations of atherosclerosis are angina pectoris and congestive heart disease.

FALSE

Level: Factual

61. (p. 26) Hepatitis A is typically transmitted through food and water.

TRUE

Level: Factual

62. (p. 29) Menopause can be cured definitively by hormone therapy.

FALSE

Level: Factual

63. (p. 30) There appears to be a genetic contribution to coronary heart diseases and some forms of cancer.

TRUE

Level: Factual

64. (p. 33) Antigens are proteins produced in response to stimulation by antibodies.

FALSE

Level: Factual

65. (p. 35) Compared to women, men are at a greater risk of contracting autoimmune diseases.

FALSE

Level: Factual

Essay Questions

66. (p. 17) Describe the two most common disorders of the nervous system.

The two most common forms of neurological dysfunction are epilepsy and Parkinson's disease. Epilepsy is a disease of the central nervous system. It is often idiopathic, which means that no specific cause for the symptoms can be identified. Epilepsy is marked by seizures which range from barely noticeable to violent convulsions, accompanied by irregular breathing, and loss of consciousness. Epilepsy cannot be cured, but it can often be controlled through medication and behavioral interventions designed to manage stress. Patients with Parkinson's disease have progressive degeneration of the basal ganglia, which is a group of nuclei in the brain that control smooth motor coordination. The result of this deterioration is tremors, rigidity, and slowness of movement. Parkinson's patients may be treated with medication, but large doses can cause undesirable side effects.

Level: Factual

67. (p. 20) Describe the structure of the cardiovascular system. Include the internal and external factors influencing heart rate, and its impact on the hearts functioning.

The cardiovascular system comprises the heart, blood vessels, and blood; and acts as the transport system of the body. Blood carries oxygen from the lungs to the tissues and carbon dioxide from the tissues to the lungs. Blood also carries nutrients from the digestive tract to the individual cells so that the cells may extract nutrients for growth and energy. The heart functions as a pump, and its pumping action causes the blood to circulate throughout the body. The heart performs its internal functions through regular rhythmic phases of contraction and relaxation known as the cardiac cycle. A number of external factors also influence the rate at which the heart contracts and relaxes. During exercise, emotional excitement, or stress the heart speeds up, and the cardiac cycle is completed in a shorter time.

Level: Factual

68. (p. 26) Describe the nature and symptoms of hepatitis. Compare and contrast Hepatitis A and Hepatitis B, and explain its mode of transmission.

Hepatitis means inflammation of the liver which produces swelling, tenderness, and sometimes permanent damage. It remains in the blood causing a yellowing of the skin known as jaundice. Hepatitis A is caused by viruses, and is typically transmitted through food and water. It is often spread by poorly cooked seafood, or through unsanitary preparation and storage of food. Hepatitis B is a more serious form which is also known as serum hepatitis. It is caused by a virus and is transmitted by the transfusion of infected blood, by improperly sterilized needles, through sexual contact, and through mother-to-infant contact. It is a particular risk among intravenous drug users. Its symptoms are similar to those of hepatitis A but are far more serious.

Level: Factual

69. (p. 30) Discuss the role of genetic counseling. How can it be used effectively by health psychologists?

Genetic counseling is used in prenatal diagnostic tests that permit the detection of some genetically based disorders, including Tay-Sachs disease, cystic fibrosis, muscular dystrophy, Huntington's disease, and breast cancer. People who have a family history of genetic disorders, those who have already given birth to a child with a genetic disorder, or those who have recurrent reproductive problems, such as multiple miscarriages, often seek such counseling. In some cases, technological advances have made it possible to treat some of these problems before birth through drugs or surgery. Growing evidence suggests that people at risk for treatable disorders benefit from genetic testing, and do not suffer long-term psychological distress. Health psychologists have an important role to play in research and counseling related to genetic risks especially if they can help people modify their risk status and manage their distress.

Level: Factual

Chapter 02 - The Systems of the Body

70. (p. 32) Compare and contrast nonspecific and specific immune mechanisms. Provide an example for each.

The body has a number of responses to invading organisms, some nonspecific and others specific. Nonspecific immune mechanisms are a general set of responses to any kind of infection or disorder. The inflammatory response is an example of a nonspecific immune mechanism. Specific immune mechanisms are always acquired after birth, and they fight particular microorganisms and their toxins. Antibodies that develop with the help of foreign antigens are an example of a specific immune mechanism.

Level: Applied