Chapter 1

1. What is the term for an infection that develops at an acute care facility?
   a. Idiopathic
   b. Community acquired
   c. Nosocomial
   d. Acute

2. What is the response of body tissue to a local injury?
   a. Edema
   b. Acute inflammation
   c. Pain
   d. Hemorrhage

3. What is a localized area of ischemic necrosis called that results from an arterial or venous occlusion?
   a. Embolus
   b. Infarct
   c. Atherosclerosis
   d. Edema

4. What refers to a reduction in the size and number of cells in an organ or tissue?
   a. Hypoplasia
   b. Aplasia
   c. Atrophy
   d. Withering

5. Neoplasms are commonly referred to as what?
   a. Lumps
   b. Tumors
   c. Growths
   d. Cysts

6. Which of the following are characteristics of a benign tumor?
   a. Closely resembles their cells of origin
   b. Remain localized
   c. Are not easily surgically removed
   d. A & B

7. Lymphatic spread is the major metastatic route, especially for _______ and _______ cancer.
   a. Breast, colon
   b. Lung, colon
   c. Brain, breast
   d. Lung, breast

8. What is the most common hereditary abnormality?
   a. Cystic fibrosis
   b. Down syndrome
   c. Hemophilia
   d. Enzyme deficiency
9. Which of the following are examples of antigens?
   a. Bacteria
   b. Viruses
   c. Fungi
   d. All the above

10. What percentage of AIDS victims have neurologic symptoms?
   a. 10%
   b. 20%
   c. 30%
   d. 40%

Chapter 2

11. What is the major advantage of ultrasound?
   a. Organ visualization
   b. Safety
   c. Fetal imaging
   d. Availability

12. What does a CT number of 1,000 represent?
   a. Water
   b. Bone
   c. Tissue
   d. Air

13. The development of magnetic resonance spectroscopy has made it possible to analyze what?
   a. Tissue structure
   b. Blood flow
   c. Tumor growth
   d. Chemical composition

14. The amount of radiation given to a patient in a nuclear medicine study may equate to how many radiographic images?
   a. 5 – 50
   b. 10 – 200
   c. 20 – 600
   d. 25 – 1,000

15. PET is especially useful in which of the following medical specialties?
   a. Oncology and cardiology
   b. Neurology
   c. Pulmonology
   d. A & B

Chapter 3

16. Gas exchange within the lungs occurs within the ________.
   a. Bronchi
   b. Trachea
   c. Alveoli
   d. Celia
17. What percentage of endotracheal tubes require repositioning after insertion?
   a. 3 – 5%
   b. 6 – 8%
   c. 10 – 20%
   d. 25 – 30%
18. What percentage of cystic fibrosis morbidity and mortality is a result of respiratory involvement?
   a. 60%
   b. 70%
   c. 80%
   d. 90%
19. What does the “sweat test” for cystic fibrosis measure on the skin?
   a. Excessive ammonia
   b. Excessive acid
   c. Excessive sodium
   d. Excessive chloride
20. Acute pneumonia is commonly caused by what organism?
   a. Fungi
   b. Bacteria
   c. Virus
   d. B & C
21. Tuberculosis can live outside the body for a long time.
   a. True
   b. False
22. Tuberculosis spreads mainly by what method?
   a. Droplet
   b. Urine
   c. Blood
   d. Contact
23. The term pulmonary mycosis is a term for what type of infection?
   a. Viral
   b. Bacterial
   c. Fungal
   d. Parasitic
24. Which of the following can cause an asthma attack?
   a. Mold
   b. Pollen
   c. Exercise
   d. All the above
25. What is the cancer risk for a patient 30-45 years of age with a solitary pulmonary nodule?
   a. 5%
   b. 10%
   c. 15%
   d. 20%
26. Which of the following cancers do not commonly metastasize to the lung?
   a. Breast
   b. Colon
   c. Thyroid
   d. Brain

27. What percentage of patients with a pulmonary embolism do not have symptoms?
   a. 60%
   b. 70%
   c. 80%
   d. 90%

28. Atelectasis is commonly a result from what?
   a. Pneumonia
   b. Cystic fibrosis
   c. Bronchial obstruction
   d. Pulmonary edema

29. Adult respiratory distress syndrome (ARDS) develops in patients with medical and surgical disorders, and major underlying lung disease.
   a. True
   b. False

30. The mediastinum is often divided into what compartments?
   a. Anterior, middle, inferior
   b. Superior, middle, posterior
   c. Superior, middle inferior
   d. Anterior, middle, posterior

Chapter 4

31. In spina bifida occulta there is a splitting of the boney neural canal at what level?
   a. L2 – L3
   b. L3 – L4
   c. L4 – L5
   d. L5 – S1

32. Osteogenesis imperfecta is also known as what?
   a. Marble bone
   b. Brittle bone
   c. Frail bone
   d. Crumbly bone

33. What is the average age of onset for rheumatoid arthritis?
   a. 30
   b. 40
   c. 50
   d. 60
34. What two types of arthritis makes up 90% of all cases diagnosed?
   a. Rheumatoid and psoriatic
   b. Osteoarthritis and psoriatic
   c. Psoriatic and fibromyalgia
   d. Rheumatoid and osteoarthritis

35. What commonly causes bursitis?
   a. Trauma
   b. Repeated physical activity
   c. Gout
   d. Infection

36. What is the best modality to image the menisci of the knee?
   a. CT
   b. MRI
   c. NM
   d. X-ray

37. What percentage of bone density must be lost before it is seen as a lucent area on an x-ray?
   a. 10 – 20%
   b. 30 – 40%
   c. 50 – 70%
   d. 75 – 80%

38. Paget’s disease affects men ______ as often as women.
   a. Twice
   b. Three times
   c. Four times
   d. Five times

39. What percentage of benign giant cell tumors recur?
   a. 40%
   b. 50%
   c. 60%
   d. 70%

40. Where does Ewing’s sarcoma form?
   a. Vertebra
   b. End of long bones
   c. Bone marrow of the long bone
   d. Ribs

41. What are the most common malignant bone tumors?
   a. Osteogenic sarcoma
   b. Chondrosarcoma
   c. Ewing’s sarcoma
   d. Metastases

42. What is the best screening examination to detect asymptomatic skeletal metastases?
   a. Radionuclide bone scan
   b. PET
   c. CT scan
   d. A & B
43. What is the most common skeletal abnormality seen in a general radiology practice?
   a. Osteoporosis
   b. Metastases
   c. Arthritis
   d. Fracture

44. What is the most common fracture involving the carpal bones?
   a. Scaphoid
   b. Lunate
   c. Capitate
   d. Trapezoid

45. The hangman’s fracture is a fracture of the arch of what cervical vertebra?
   a. C1
   b. C2
   c. C6
   d. C7

46. What is the most frequent level for a herniated disc?
   a. L4 – L5
   b. L5 – S1
   c. C5 – C6
   d. A & B

Chapter 5

47. How much bile do liver cells secrete each day?
   a. 1/4 pint
   b. 1/2 pint
   c. 3/4 pint
   d. 1 pint

48. A hiatal hernia occurs in what percentage of the population?
   a. 30%
   b. 40%
   c. 50%
   d. 60%

49. What is the highest major complication in people with peptic ulcer disease?
   a. Gastric outlet obstruction
   b. Hemorrhage
   c. Perforation
   d. Penetration

50. What county has a low stomach cancer rate?
   a. United States
   b. Japan
   c. Chile
   d. Sweden
51. Crohn’s disease is most common at what age?
   a. Children
   b. Young adults
   c. Adults
   d. Elderly
52. What percentage of small bowel obstructions are caused by fibrous adhesions?
   a. 55%
   b. 65%
   c. 75%
   d. 85%
53. Ulcerative colitis and Crohn’s colitis are both major inflammatory bowel diseases.
   a. True
   b. False
54. Carcinoma of the colon and rectum is the _________ leading cause of death from cancer in the United States.
   a. Second
   b. Third
   c. Fourth
   d. Fifth
55. About 70% of large bowel obstructions result from which of the following?
   a. Volvulus
   b. Diverticulitis
   c. Colon cancer
   d. Bowel ischemia
56. What is the most common pancreatic malignancy?
   a. Hormone-secreting neoplasms
   b. Ulcerogenic islet cell tumors
   c. Diarrheagenic islet cell tumors
   d. Adenocarcinoma

Chapter 6

57. How much water do the nephrons filter each day?
   a. 100 L
   b. 130 L
   c. 160 L
   d. 190 L
58. Where does the formation of urine begin?
   a. Bowman’s capsule
   b. Proximal convoluted tubule
   c. Glomerulus
   d. Loop of Henle
59. PH must be kept in what range?
   a. 7.15 to 7.25
   b. 7.35 to 7.45
   c. 7.50 to 7.60
   d. 7.65 to 7.70

60. Ectopic ureteroceles are found almost exclusively in what age group?
   a. Infants
   b. Children
   c. Adults
   d. A & B

61. The infection causing pyelonephritis originates in the __________.
   a. Lymphatics
   b. Blood stream
   c. Bladder
   d. Ureter

62. What is the imaging modality of choice to image pyelonephritis?
   a. MRI
   b. Ultrasound
   c. CT
   d. Abdominal x-ray

63. What is the most common infection in hospital patients?
   a. Cystitis
   b. Bloodstream infections
   c. Ventilator-associated pneumonia
   d. Surgical site infection

64. What is the modality of choice to distinguish fluid-filled cysts from solid mass lesions?
   a. CT
   b. X-ray
   c. Ultrasound
   d. MRI

65. What is the most common renal neoplasm?
   a. Wilms’ tumor
   b. Urothelial cell carcinoma
   c. Renal cell carcinoma
   d. Lymphoma

66. What is the most accurate modality for detecting local and regional spread of renal cell carcinoma?
   a. CT
   b. MRI
   c. PET
   d. Ultrasound
67. What is the cure rate in patients with Wilms’ tumor?
   a. 70%
   b. 75%
   c. 80%
   d. 85%

68. What is the fourth most common cancer in men over 50?
   a. Renal
   b. Bladder
   c. Lung
   d. Colon

Chapter 7

69. Which heart valve is located between the left atrium and the left ventricle?
   a. Pulmonary valve
   b. Tricuspid valve
   c. Mitral valve
   d. Aortic

70. What is the most common congenital cardiac lesion?
   a. Ventricular septal defect
   b. Coarctation of the aorta
   c. Patent ductus arteriosus
   d. Atrial septal defect

71. Tetralogy of Fallot consists of how many abnormalities?
   a. One
   b. Two
   c. Three
   d. Four

72. What is the best noninvasive study to assess blood flow to the myocardium?
   a. Cardiac CT
   b. Cardiac MR
   c. Thallium perfusion
   d. CT SPECT

73. What percentage of patients undergoing coronary angiography have stenosis in three major vessels?
   a. 10%
   b. 20%
   c. 30%
   d. 40%

74. What is the inability of the heart to pump blood at a rate and volume that adequately supplies the tissues called?
   a. Pulmonary hypertension
   b. Coronary artery disease
   c. Heart failure
   d. Arrhythmia
75. Where does pleural effusion associated with pulmonary edema usually occur?
   a. Left lung
   b. Right lung
   c. Bilateral
   d. Lower lobe

76. Hypertension is the leading cause of what?
   a. Stroke
   b. Cardiac arrest
   c. CHF
   d. A & C

77. A saccular aneurysm involves the entire circumference of the vessel wall.
   a. True
   b. False

78. What is the best imaging modality to define an abdominal aortic aneurysm?
   a. CT
   b. X-ray
   c. MRI
   d. Ultrasound

79. What is the major cause of vascular disease in the lower extremities?
   a. Smoking
   b. Atherosclerosis
   c. Blood pressure
   d. Diabetes

80. Acute embolic occlusion of an artery most commonly affects what part of the body?
   a. Lower extremities
   b. Heart
   c. Brain
   d. Carotid arteries

81. What disease is almost always the result of rheumatic disease?
   a. Aortic stenosis
   b. Mitral stenosis
   c. Carotid stenosis
   d. Coronary artery stenosis

82. What is the most effective imaging technique to demonstrate pericardial effusion?
   a. Thallium perfusion
   b. Cardiac CTA
   c. Echocardiography
   d. CT SPECT

Chapter 8

83. What is the largest part of the brain?
   a. Cerebrum
   b. Cerebellum
   c. Brain stem
   d. Pons
84. What ventricle is a diamond-shaped space?
   a. Third ventricle
   b. Right lateral ventricle
   c. Left lateral ventricle
   d. Fourth ventricle
85. What is an acute inflammation of the pia matter and arachnoid called?
   a. Encephalitis
   b. Myelitis
   c. Meningitis
   d. Abscess
86. What percentage of encephalitis cases occur in children?
   a. 30%
   b. 40%
   c. 50%
   d. 60%
87. How do intracranial neoplasms clinically manifest?
   a. Severe headache
   b. Seizures
   c. Gradual neurologic deficits
   d. B & C
88. What is the most common primary malignant brain tumor?
   a. Meningioma
   b. Ependymoma
   c. Glioma
   d. Giant cell tumor
89. Which of the following does not describe a craniopharyngioma?
   a. Cystic components
   b. Solid components
   c. Occurs after age 30
   d. Benign
90. The most common neoplasms that metastasize to the brain are from what primary sites?
   a. Colon
   b. Lung
   c. Breast
   d. B & C
91. How should plain radiographs of facial fractures be done?
   a. Erect
   b. Supine
   c. Trendelenburg
   d. Semi erect
92. What is the most common facial fracture?
   a. Blowout fracture
   b. Nasal fracture
   c. Mandible fracture
   d. Zygomatic arch fracture
93. Transient ischemia attacks completely resolve within how many hours?
   a. 12
   b. 24
   c. 36
   d. 48

94. What is the most common demyelinating disorder?
   a. Multiple sclerosis
   b. Guillain- Barre’
   c. Devic’s disease
   d. Optic neuritis

Chapter 9

95. How many red blood cells are in each cubic millimeter of blood?
   a. 2.5 to 4 million
   b. 4.5 to 6 million
   c. 7.5 to 8.5 million
   d. 9.5 to 10 million

96. Which leukocyte makes up 55% to 75% of white blood cells?
   a. Eosinophils
   b. Basophils
   c. Monocytes
   d. Neutrophils

97. What is the most common cause of anemia?
   a. Hemolytic anemia
   b. Iron deficiency anemia
   c. Sickle cell anemia
   d. Thalassemia

98. Megaloblastic anemia is a deficiency of what vitamin?
   a. Vitamin B12
   b. Folic acid
   c. Vitamin D
   d. A & B

99. Acute lymphocytic leukemia is the most common form in __________.
   a. Children
   b. Young adults
   c. Adults
   d. Elderly

100. What percentage of Hodgkin’s disease originates in the lymph nodes?
    a. 60%
    b. 70%
    c. 80%
    d. 90%
101. About 5 – 10% of patients with lymphoma have involvement in what part of the GI tract?
   a. Stomach
   b. Small bowel
   c. Large bowel
   d. A & B

102. Purpura is a deficiency in the number of ________.
   a. Red blood cells
   b. Platelets
   c. White blood cells
   d. A & B

Chapter 10

103. Which of the following are major endocrine glands?
   a. Pituitary
   b. Adrenal and thyroid
   c. Parathyroid
   d. All the above

104. Renin is secreted by the ________.
   a. Brain
   b. pancreas
   c. Adrenal gland
   d. Kidney

105. What gland is called the master gland?
   a. Pituitary gland
   b. Thyroid gland
   c. Adrenal gland
   d. Parathyroid gland

106. What does the thyroid gland pick up from the blood?
   a. Calcium
   b. Magnesium
   c. Potassium
   d. Iodine

Chapter 11

107. Enlargement of the prostate gland is uncommon in men over the age of 60.
   a. True
   b. False

108. What is the best way to detect prostate cancer?
   a. Ultrasound
   b. CT
   c. Palpation
   d. MRI
109. What is the best modality to accurately stage pelvic neoplasms?
   a. Ultrasound
   b. PET
   c. CT
   d. MRI

110. Prostate cancer most commonly metastasizes to the _______.
   a. Brain
   b. Bone
   c. Lung
   d. Liver

111. What is the most common neoplasm in men between the ages of 20 – 35?
   a. Lymphoma
   b. Leukemia
   c. Glioma
   d. Testicular

112. Where do metastatic tumors of the ovary originate?
   a. Breast
   b. Colon
   c. Stomach
   d. All the above

113. What is the most common invasive gynecologic neoplasm?
   a. Ovarian cancer
   b. Adenocarcinoma of the endometrium
   c. Cervical cancer
   d. Peritoneal cancer

114. Breast cancer is the most common malignancy among women between what ages?
   a. 41 and 49
   b. 44 and 50
   c. 48 and 57
   d. 50 and 62

115. After a screening mammogram, what percent of women are recalled for extensive imaging?
   a. 3 – 5%
   b. 4 – 6%
   c. 7 – 10%
   d. 11 – 14%

116. What percentage of ectopic pregnancies occur within the fallopian tubes?
   a. 65%
   b. 75%
   c. 85%
   d. 95%
117. Which of the following are water soluble vitamins?
   a. Vitamin B
   b. Vitamin C
   c. Vitamin K
   d. A & B

118. What is the melanoma mortality rate?
   a. >50%
   b. >60%
   c. >70%
   d. >80%

119. Individuals with Down Syndrome have three strands of what chromosome?
   a. Chromosome 21
   b. Chromosome 22
   c. Chromosome 23
   d. Chromosome 24

120. People with Marfan’s Syndrome are tall, slender and appear emaciated.
   a. True
   b. False