1. Cigarette smoking predisposes to malignant neoplasms because smoking: 
   A. causes metaplasia and dysplasia in the epithelium 
   B. promotes malignant changes in all types of benign tumors in the lungs 
   C. causes paraneoplastic syndrome 
   D. increases exposure to carbon monoxide in the lungs 

2. Common early signs of aplastic anemia include: 
   A. painful joints and skeletal deformity 
   B. abdominal discomfort and splenomegaly 
   C. excessive bleeding and recurrent infections 
   D. palpitations and chest pain 

3. Cor pulmonale may develop with chronic pulmonary disease because: 
   A. the right ventricle pumps more blood than the left ventricle 
   B. pulmonary fibrosis and vasoconstriction increase vascular resistance 
   C. demands on the left ventricle are excessive 
   D. blood viscosity is increased, adding to cardiac workload 

4. Predisposing factors to thrombus formation in the circulation include: 
   1. decreased viscosity of the blood 
   2. damaged blood vessel walls 
   3. immobility 
   4. prosthetic valves 
   A. 1, 3 
   B. 2, 4 
   C. 1, 3, 4 
   D. 2, 3, 4 

5. The early signs or symptoms of myocardial infarction frequently include: 
   A. brief, substernal pain radiating to the right arm, with labored breathing 
   B. persistent chest pain radiating to the left arm, pallor, and rapid, weak pulse 
   C. bradycardia, increased blood pressure and severe dyspnea 
   D. flushed face, rapid respirations, left-side weakness and numbness 

6. When comparing angina with myocardial infarction (MI), which statement is true? 
   A. both angina and MI cause tissue necrosis 
   B. angina often occurs at rest, MI occurs during a stressful time 
   C. pain is more severe and lasts longer with angina than with MI 
   D. angina pain is relieved by rest and intake of nitroglycerin, MI is not
7. Manifestations of hemolytic jaundice include:
   A. increased unconjugated bilirubin in the blood
   B. increased bleeding tendencies
   C. pale stool and dark urine
   D. elevated liver enzymes in the blood

8. Excessive bleeding is common with acute leukemia because of:
   A. the deficit of calcium ions
   B. impaired production of prothrombin and fibrinogen
   C. decreased platelets
   D. dysfunctional thrombocytes

9. Lung expansion in the elderly may be reduced because of decreased:
   1. tissue elasticity
   2. rib mobility
   3. control by the respiratory center
   4. skeletal muscle strength
   A. 1, 3
   B. 1, 4
   C. 2, 3
   D. 1, 2, 4

10. When a gallstone obstructs the cystic duct, the major effect is:
    A. obstructive jaundice
    B. acute pancreatitis
    C. severe colicky pain
    D. inflammation and infection in the gall bladder

11. The defect, esophageal atresia, results in:
    A. aspiration of saliva and food into the trachea
    B. repeated reflux of gastric secretions into the esophagus
    C. no fluid or food entering the stomach
    D. gastric distention and cramps

12. A major factor leading to increased occurrence of cancer in the elderly is:
    A. widespread vascular degeneration
    B. cumulative exposure to carcinogens
    C. hereditary factors
    D. increased immune surveillance

13. The changes resulting from total heart block include:
    A. a prolonged PR interval
    B. periodic omission of a ventricular contraction
    C. a wide QRS wave
    D. spontaneous slow ventricular contractions, not coordinated with atrial contraction
14. The typical changes occurring with Crohn’s disease include:
   A. degeneration and flattening of the villi in the small intestine
   B. multiple herniations of the mucosa through weak areas of the muscularis
   C. a continuous area of mucosal inflammation and ulceration in the rectum and colon
   D. inflamed areas of the wall of the ileum alternating with thick fibrotic or normal areas

T  F  15. Autoimmune diseases become less of a problem in the elderly.

16. Which statement does NOT apply to emphysema?
   A. the surface area available for gas exchange is greatly reduced
   B. a genetic defect may lead to breakdown of elastic fibers
   C. the ventilation/perfusion ratio remains constant
   D. expiration is impaired

17. Non-Hodgkin’s lymphoma differs from Hodgkin’s lymphoma in that non-Hodgkin’s lymphoma usually presents as:
   A. enlarged painful glands in the neck
   B. tumors in the spleen, liver and intestines
   C. multiple, scattered, enlarged and painless lymph nodes
   D. multiple infections unresponsive to treatment

18. Hypercapnia would cause:
   A. increased serum pH
   B. decreased respirations
   C. respiratory acidosis
   D. decreased carbonic acid in the blood

T  F  19. Leonard Hayflick showed that cells can only divide so many times and then they age and die.

20. The term arteriosclerosis is used specifically to refer to:
   A. development of atheromas in large arteries
   B. changes in coronary arteries
   C. degeneration with loss of elasticity and obstruction in small arteries
   D. ischemia and necrosis in the brain, kidneys, and heart

21. Which of the following are present with pernicious anemia?
   A. pancytopenia
   B. hypochlorhydria
   C. leukocytosis
   D. multiple infarcts
22. The basis for acute attacks of extrinsic asthma is:
   A. gradual degeneration and fibrosis
   B. continuous severe attacks unresponsive to medication
   C. type 1 hypersensitivity reaction
   D. hyperresponsive mucosa

T  F  23. A common problem in older men is benign prostatic atrophy.

24. The pathophysiology of chronic gastritis includes:
   A. atrophy of the gastric mucosa with decreased secretions
   B. hyperchlorhydria and chronic peptic ulcers
   C. frequent vomiting and diarrhea
   D. episodes of acute inflammation and edema of the mucosa

25. Ventricular fibrillation will result in cardiac arrest because:
   A. delayed conduction through the AV node blocks ventricular stimulation
   B. insufficient blood is supplied to the myocardium
   C. the ventricles contract before the atria
   D. parasympathetic stimulation depresses the SA node

26. Untreated pernicious anemia causes numbness and tingling in the fingers, primarily due to:
   A. persistent hyperbilirubinemia
   B. increasing acidosis affecting metabolism
   C. Vitamin B12 deficit causing peripheral nerve demyelination
   D. multiple small vascular occlusions affecting peripheral nerves

27. Petechiae and purpura are common signs of:
   A. excessive hemolysis
   B. leukopenia
   C. increased bleeding tendencies
   D. hemoglobin deficit

28. Early signs of cancer in the ascending colon include:
   A. change in shape of the stool
   B. bleeding with defecation
   C. mild but persistent pain in the lower left quadrant
   D. occult blood in the stool

29. Predisposing factors to osteoporosis in older women include all of the following except:
   A. decreased estrogen secretion
   B. genetic factors
   C. sedentary lifestyle
   D. decreased parathyroid hormone
30. A primary factor causing encephalopathy with cirrhosis is the elevated:
   A. serum urea
   B. conjugated bilirubin
   C. serum ammonia
   D. serum pH

31. A diagnosis of essential hypertension is considered when:
   A. blood pressure remains consistently above 140/90
   B. blood pressure fluctuates between 180/105 and 120/80
   C. blood pressure increases rapidly and is unresponsive to medication
   D. chronic kidney disease leads to consistently elevated blood pressure

32. All of the following changes are associated with aging except:
   A. loss of elastic fibers
   B. decreased metabolic rate
   C. decreased secretion of all hormones
   D. degenerative vascular changes

33. The dietary requirement for a child with celiac disease is:
   A. low sodium, high fat
   B. high carbohydrate, low protein
   C. high calorie vitamin supplements
   D. gluten-free

34. Staging for Hodgkin's lymphoma uses the diaphragm as the differential landmark as well as the number of lymph nodes involved.

35. Which of the following is most likely to cause left-sided congestive heart failure?
   A. incompetent tricuspid heart valve
   B. chronic pulmonary disease
   C. infarction in the right atrium
   D. uncontrolled essential hypertension

36. Typical early general signs/symptoms of anemia are:
   A. chest pain, palpitations
   B. jaundice, stomatitis
   C. pallor, dyspnea, and fatigue
   D. bradycardia, heat intolerance

37. Calcium-channel blocking drugs are effective in:
   A. reducing the risk of blood clotting
   B. decreasing the attraction of cholesterol into lipid plaques
   C. reducing cardiac and smooth muscle contractions
   D. decreasing all types of cardiac arrhythmias
38. A large-sized pulmonary embolus is likely to cause:
   A. hypertension and left-sided heart failure
   B. atelectasis and respiratory failure
   C. hypotension and right-sided heart failure
   D. pleural effusion and atelectasis

39. Chronic blood loss causes anemia because of the:
   A. shortened life span of the erythrocytes
   B. lower metabolic rate
   C. loss of protein and electrolytes
   D. smaller amount of recycled iron available

40. Acute pancreatitis causes massive inflammation and necrosis because of:
   A. formation of multiple thrombi and ischemia
   B. infection by intestinal microbes
   C. immune complex reaction
   D. activation and spread of proteolytic enzymes

41. Which of the following effects may be expected from a ‘beta-blocking’
drug?
   A. increasing systemic vasoconstriction
   B. decreased sympathetic stimulation of the heart
   C. blockage of an angiotensin receptor site
   D. increased release of renin

T  F  42. Because influenza viruses mutate so frequently, vaccinations are
generally considered to have little preventative value.