1. Which of the following is not a congenital immune deficiency

   A. SCID  
   B. DiGeorge syndrome  
   C. Chronic granulomatous disease  
   D. All of them are congenital

2. What statement concerning AIDS is true

   A. the virus infects the brain only in rare cases  
   B. the virus infects the CD8+ T cells most often  
   C. AIDS is no longer a death sentence but rather a chronic illness managed by medications  
   D. the vaccine for HIV should be available by 2013

3. True or False  the leading cause of poor wound healing is infection

4. True or False  for the longest term of protection against hepatitis B, a gamma globulin shot is better than the vaccine

5. Hypersensitivity is best defined as:

   A. a reduced immune response found in most pathologic states.  
   B. a normal immune response to an infectious agent.  
   C. an excessive or inappropriate response of the immune system to a sensitizing antigen.  
   D. antigenic desensitization.

6. A 5-year-old female takes a hike through the woods during a school field trip. Upon returning home, she hugs her father and he later develops poison ivy. Which of the following immune reactions is he experiencing?

   A. IgE-mediated  
   B. Tissue specific  
   C. Immune complex  
   D. Cell-mediated
7. When the maternal immune system becomes sensitized against antigens expressed by the fetus, what type of immune reaction occurs?

A. Autoimmune  
B. Anaphylaxis  
C. Alloimmune  
D. Allergic

8. Seasonal allergic rhinitis is expressed through:

A. IgE-mediated reactions.  
B. tissue-specific reactions.  
C. antigen-antibody complexes.  
D. type II hypersensitivity reactions.

9. A 10-year-old male presents to his physician complaining of wheezing and difficulty breathing. History reveals that both of the child’s parents suffer from allergies. Which of the following terms would be used to classify the child?

A. Autosensitive  
B. Atopic  
C. Attenuated  
D. Immunodeficient

10. A 30-year-old female presents to her physician complaining of fatigue, excessive sweating, and increased appetite. Physical examination reveals protruding eyes, and laboratory testing reveals hyperthyroidism secondary to autoantibody production. This disorder falls into which of the following categories?

A. Type I hypersensitivity  
B. Type II hypersensitivity  
C. Type III hypersensitivity  
D. Type IV hypersensitivity

11. Several prisoners are experiencing symptoms of tuberculosis. A tuberculin reaction test was ordered. This test is an example of type _____ hypersensitivity.

A. I  
B. II  
C. III  
D. IV
12. Systemic lupus erythematosus (SLE) is an example of:
   A. autoimmunity.
   B. alloimmunity.
   C. homoimmunity.
   D. alleimmunity.

13. Which of the following mutations have the most significant effect on protein synthesis?
   A. Base pair substitutions
   B. Silent mutations
   C. Intron mutations
   D. deletions

14. An error in which homologous chromosomes fail to separate during meiosis is termed:
   A. aneuploidy.
   B. nondisjunction.
   C. polyploidy.
   D. anaplasia.

15. Risk factors for Down syndrome include:
   A. fetal exposure to mutagens in the uterus.
   B. increased paternal age.
   C. family history of Down syndrome.
   D. pregnancy in women over age 35.

16. An XXY person has the genetic disorder called:
   A. Turner syndrome.
   B. Klinefelter syndrome.
   C. Down syndrome.
   D. fragile X syndrome.

17. Cystic fibrosis is caused by an _____ gene.
   A. X-linked dominant
   B. X-linked recessive
   C. autosomal dominant
   D. autosomal recessive
18. Joey, age 9, is admitted to a pediatric unit with Duchenne muscular dystrophy. He inherited this condition through a:

A. sex-linked dominant trait.
B. sex-influenced trait.
C. sex-limited trait.
D. sex-linked recessive trait.

19. The person that a pedigree chart begins with is called the:

A. proband.
B. proposita.
C. propositus.
D. carrier.

20. The immunoglobulin that crosses the placenta confers _____ immunity to the fetus.

A. active acquired
B. passive acquired
C. innate
D. cell-mediated

21. The predominant antibody of a typical primary immune response is:

A. IgG.
B. IgM.
C. IgA.
D. IgE.

22. The primary role of secretory IgA is to prevent infections in:

A. blood vessels.
B. kidneys.
C. lungs.
D. mucous membranes.

23. A 20-year-old female has been diagnosed with AIDS. Laboratory testing would reveal diminished levels of:

A. cytotoxic T cells.
B. B cells.
C. helper T cells.
D. T suppressor cells.
24. A 5-month-old child is admitted to the hospital with recurring respiratory infections. A possible cause of this condition is:

A. hypergammaglobulinemia.
B. increased maternal IgG.
C. immune insufficiency.
D. decreased maternal antibody breakdown, resulting in hyposensitivity.

25. What is a purpose of the inflammatory process?

A. To provide specific responses toward antigens
B. To lyse cell membranes of microorganisms
C. To prevent infection of the injured tissue
D. To create immunity against subsequent tissue injury

26. The predominant phagocyte of early inflammation is the:

A. eosinophil.
B. neutrophil.
C. lymphocyte.
D. macrophage.

27. A 10-year-old male is diagnosed with a large tapeworm. Which of the following cells would be produced in response to this worm?

A. Monocytes
B. Eosinophils
C. Neutrophils
D. Natural killer cells

28. A patient with scurvy generally expresses impaired wound healing caused by a lack of:

A. ascorbic acid.
B. vitamin E.
C. vitamin K.
D. pyridoxine.

29. The most important environmental risk factor for cancer is exposure to:

A. ultraviolet (UV) radiation.
B. radon.
C. estrogen.
D. cigarette smoke.
30. The most frequently reported symptom of cancer and cancer treatment is:

A. fatigue.
B. anorexia.
C. pain.
D. weight loss.

31. A 50-year-old female is suffering from anorexia, anemia, asthenia, weight loss, and altered metabolism resulting in malnutrition. She was previously diagnosed with cancer. Which of the following describes her symptoms?

A. Fatigue
B. Cachexia
C. Paraneoplastic
D. Acute phase response

32. Which of the following is the most significant cause of complications and death in cancer patients?

A. Anemia
B. Leukopenia
C. Thrombocytopenia
D. Infection

33. Gastrointestinal alterations, such as nausea and mucosal erosions, are common side effects of chemotherapy treatment because:

A. medical marijuana use is illegal in the United States.
B. chemotherapy agents target rapidly dividing cells in the oral and intestinal linings.
C. chemotherapy is usually administered orally.
D. chemotherapy agents stimulate the pathogenic gastrointestinal flora to release toxins.

34. Which feature is characteristic of malignant tumor?

A. Grows slowly
B. Has a well-defined capsule
C. Has a high mitotic index
D. Is well-differentiated

35. Preinvasive epithelial tumors of glandular or squamous cell origin are referred to as:

A. tumor in differentiation.
B. premetastatic.
C. cancer in situ.
D. cancer beyond (meta) situ.
36. A 25-year-old male develops a tumor of the breast glandular tissue. This type of tumor is classified as a(n):

A. carcinoma.
B. adenocarcinoma.
C. sarcoma.
D. lymphoma.

37. In cancer, angiogenic factors stimulate:

A. release of growth factors.
B. tumor regression.
C. apoptosis.
D. new blood vessel growth.

38. Presence of telomere caps gives cancer cells:

A. immortality.
B. clonal distinction.
C. pleomorphism.
D. mutagenic abilities.

39. A child develops retinoblastoma. Which of the following must have occurred?

A. The rb gene was activated.
B. Mutations in the rb gene occurred in both copies of the gene.
C. The apoptosis gene was activated.
D. Only one copy of the rb gene was mutated.

40. Which of the following factors is necessary for local tumor spread?

A. Increased cellular motility
B. Increased cell adhesion
C. Temporary cessation of cell division
D. Presence of lymphatic vessels

41. Muscular atrophy involves a decrease in muscle cell:

A. number.
B. size.
C. vacuoles.
D. lipofuscin.
42. A 55-year-old male with a 30-year history of smoking is examined for respiratory disturbance. Examination of his airway (bronchial) reveals that stratified squamous epithelial cells have replaced the normal columnar ciliated cells. The type of cellular adaptation is called:

A. hypertrophy.
B. hyperplasia.
C. metaplasia.
D. dysplasia.

43. A 55-year-old male is diagnosed with hepatocellular cancer secondary to hepatitis C. If the cancerous region of the liver were removed, the remaining cells would undergo:

A. dysplasia.
B. metaplasia.
C. compensatory hyperplasia.
D. compensatory dysplasia.

44. A 40-year-old female is undergoing treatment for cervical cancer. Which of the following cellular changes is most likely to be associated with her cancer?

A. Metaplasia
B. Atrophy
C. Hypertrophy
D. Dysplasia

45. Sodium and water accumulation in an injured cell are a direct result of:

A. decreased ATP production.
B. reverse osmosis.
C. ribosome detachment.
D. cellular atrophy.

46. A 52-year-old male suffered a myocardial infarction secondary to atherosclerosis and ischemia. Once oxygen returned to the damaged heart, reperfusion injury occurred as a result of:

A. free radical formation.
B. vacuolation.
C. increased metabolic state.
D. lactic acid accumulation.

47. A common pathway of irreversible cell injury involves increased intracellular:

A. sodium.
B. potassium.
C. magnesium.
D. calcium.
48. Liquefactive necrosis occurs in the brain because:

A. debris is not digested by hydrolases.
B. of protein denaturation.
C. it is rich in hydrolytic enzymes and lipids.
D. ischemia results in chemical injury.

49. A group of prison inmates developed tuberculosis following exposure to an infected inmate. On examination, tissues were soft and granular like clumped cheese. Which of the following is the most likely cause?

A. Coagulative necrosis
B. Liquefactive necrosis
C. Caseous necrosis
D. Autolysis

50. Apoptosis is a condition in which cells program themselves to:

A. atrophy.
B. die.
C. regenerate.
D. age.

51. In distinguishing aging from diseases:

A. it is difficult to tell the difference because both processes are believed to result from cell injury.
B. it is easy to tell normal processes from abnormal processes.
C. disease, unlike aging, has a genetic component.
D. aging is defined as exceeding life expectancy but not maximal life span.

52. Muscle stiffening occurring within 6 to 14 hours after death is called:

A. livor mortis.
B. gangrene.
C. algor mortis.
D. rigor mortis.

53. Cytokine most important in fever
A. IL-1B
B. TNF-a
C. IL-6
D. IL-10
54 A newborn is diagnosed with congenital intrinsic factor deficiency. From which of the following types of anemia does he suffer?
A. Iron deficiency anemia
B. Pernicious anemia
C. Sideroblastic anemia
D. Hemolytic anemia

55. Erythrocytes that are _____ contain an abnormally low concentration of hemoglobin.
A. hyperchromic
B. hypochromic
C. macrocytic
D. microcytic

56. All of the following pathogenic mechanisms cause anemia in chronic inflammation except:
A. decreased erythrocyte lifespan.
B. failure of mechanisms of compensatory erythropoiesis.
C. disturbances of the iron cycle.
D. increased basal metabolic rate.

57. A 68-year-old female is admitted to the emergency room with a diagnosis of polycythemia vera. Her symptoms are mainly the result of:
A. a decreased erythrocyte count.
B. rapid blood flow to the major organs.
C. increased blood viscosity.
D. neurologic injury.

58. Leukocytosis can be defined as:
A. a normal leukocyte count.
B. a high leukocyte count.
C. a low leukocyte count.
D. another term for leukopenia.

59 A 35-year-old female is diagnosed with lymphadenopathy. The most likely finding leading to this diagnosis is:
A. small, hard lymph nodes.
B. disordered lymph nodes.
C. nonpalpable, nontender lymph nodes.
D. enlarged lymph nodes.

60. A 35-year-old male has enlarged lymph nodes in the neck and a mediastinal mass. He was diagnosed with Hodgkin lymphoma. Which of the following abnormal cells would be expected with this disease?
A. Merkel cell
B. Schwann cell
C. Reed-Sternberg cell
D. Kupffer cell
EXTRA CREDIT

61. A 30-year-old female presents with hematuria, menorrhagia, and bleeding gums. She is diagnosed with immune thrombocytic purpura (ITP). The most likely cause is:
A. allergy-induced platelet lysis.
B. an immune response to hypersplenism.
C. antibody destruction of platelets.
D. T cell injury to megakaryocytes.

62. A 40-year-old female develops disseminated intravascular coagulation (DIC). The most likely cause of this condition is:
A. snake venom.
B. blood transfusion.
C. sepsis.
D. immune thrombocytopenic purpura (ITP).

63. In DIC, active bleeding occurs after intravascular clotting because:
A. prothrombin is activated.
B. clotting factors are depleted.
C. inflammatory mediators are released.
D. tissue factor (TF) is inactivated.

64. TRUE or FALSE the most common cause of anemia is iron deficiency

65. TRUE or FALSE Thalassemias usually result in underproduction of normal globin proteins