Chapter 12 Questions

1. Which of the following is true of the influenza virus?
   A) Transmission usually occurs by water contamination.
   B) The virion has no protein associated with it.
   C) Replication of the virion takes place in the body's kidney cells.
   D) The virion undergoes antigenic variations.
   E) The virion has no envelope.

2. The respiratory syncytial virus takes its name from the
   A) formation of giant cells in tissue culture cells.
   B) involvement of the liver tissue.
   C) lysis of the red blood cells which accompanies the disease.
   D) type of mammal in which the disease is usually located.
   E) involvement of the nervous system.

3. Guillain-Barre syndrome and Reye syndrome are both
   A) accompanied by massive amounts of virus in the brain tissue
   B) associated with influenza viruses.
   C) due to adenoviruses.
   D) transmitted chiefly by female mosquitoes.
   E) viral diseases of the skin.

4. Which of the following applies to the adenoviruses
   A) one type causes an eye inflammation called keratoconjunctivitis.
   B) The viruses are involved in liver diseases.
   C) Most adenoviruses are transmitted by contaminated arthropods.
   D) The viruses have a close association with Reye syndrome.
   E) Most adenoviruses are composed of RNA.

5. The fifth disease is accompanied by
   A) substantial lesion formation in the brain tissue and meninges.
   B) infection of the kidneys and an interruption of urine production.
   C) a fiery red rash on the cheeks and ears resembling a slap.
   D) yellowing of the skin resulting from seepage of bile form the liver.
   E) fluid-filled skin blisters.

6. The fluid-filled vesicles occurring in cases of chickenpox
   A) contain large amounts of virus.
   B) are similar to those in syphilis.
   C) break out simultaneously over the whole body.
   D) contain very few viruses.
   E) reflect infection of the cerebrospinal fluid.
7. All the following are considered forms of herpes simplex except
   A) cold sores forming around the lips and nose.
   B) herpes encephalitis, a brain disease that may occur in newborns.
   C) genital herpes.
   D) liver damage developing in young adults.
   E) gingivostomatitis.

8. The TORCH diseases are those that
   A) are associated with high fever syndromes.
   B) pass from a pregnant woman to the developing fetus.
   C) occur only in topically-related cellular histiocytes.
   D) can be treated with antibiotics.
   E) cause the body to burn with fever.

9. All the following may be associated with measles except
   A) Koplik spots.
   B) a rare brain disease called subacute sclerosing panencephalitis.
   C) a red skin rash.
   D) inflammation of the salivary glands.
   E) sensitivity to light.

10. Orchitis is a disease that may develop in
    A) children who have had influenza.
    B) adult males who have had mumps.
    C) animals who contract smallpox.
    D) pre-pubescent females who contract German measles.
    E) children who have had Kawasaki disease.

11. One of the reasons for the success of the smallpox eradication campaign was that
    A) smallpox could be treated with antibiotics.
    B) smallpox viruses were used in the vaccine.
    C) smallpox occurred only in humans.
    D) smallpox was not a transmissible disease.
    E) smallpox occurred only in South America.

12. German measles is similar to measles because
    A) both diseases are caused by the same virus.
    B) the gastrointestinal tract is involved in both diseases.
    C) a skin rash occurs in both diseases.
    D) both diseases lead to Reye syndrome.
    E) both diseases affect the reproductive organs.
13. Herpes zoster, or shingles, is an adult disease caused by
   A) an RNA virus with spikes.
   B) an RNA virus without spikes.
   C) the rubeola virus.
   D) a virus transmitted mainly by arthropods.
   E) the same virus that causes chickenpox.

14. All the following may be observed in an individual who has rubella except
   A) occasional fever.
   B) deep yellowing of the skin.
   C) variable, pale pink maculopapular rash.
   D) swollen lymph nodes.
   E) mild cold symptoms.

15. The MMR immunization program has significantly affected the annual incidence of all
    the following diseases except
   A) rubella.
   B) German measles.
   C) mumps.
   D) measles.
   E) chickenpox.

16. All the following conditions can be associated with congenital rubella syndrome except
    A) deafness.
    B) cataracts.
    C) difficulty in seeing.
    D) heart defects.
    E) encephalitis.

17. Most cases of herpes zoster, or shingles, occur in
    A) pre-pubescent males.
    B) females who have undergone a hysterectomy.
    C) individuals treated with measles gamma globulin.
    D) people over 50 years of age.
    E) females who have had contact with mumps viruses.

18. Diagnosis of the fifth disease is often based on
    A) the hemagglutination-inhibition test.
    B) observation of characteristic symptoms.
    C) isolation of the responsible virus.
    D) characteristic damage to the liver.
    E) swelling of the salivary glands.
19. A large, brick-shaped DNA virion is the responsible agent of
A) smallpox.
B) Reye syndrome in recoverers from influenza.
C) chickenpox.
D) subacute sclerosing panencephalitis.
E) Kawasaki disease.

20. Which of the following is a characteristic sign of Kawasaki disease?
A) macules that progress to papules then vesicles
B) a "slapped cheek" appearance on the face
C) peeling of the skin about the fingers
D) loss of nervous function and decreased intellectual skills
E) crops of fluid-filled vesicles

21. The prospects for developing a vaccine for the common cold are not promising because
A) the common cold virus has not been identified.
B) many different viruses can cause the common cold.
C) funds for this type of research are not available.
D) there would be virtually no candidates for such a vaccine.
E) viruses cannot be cultivated in tissue culture medium.

22. Studies performed in the 1980s suggested a link between
A) measles and orchitis in men.
B) Kawasaki disease and genital warts.
C) ethylene oxide and relief from influenza.
D) rhinoviruses and diarrhea.
E) aspirin and Reye syndrome.

23. The global eradication campaign for the elimination of smallpox
A) depended upon the elimination of arthropod vectors.
B) was completed in the 1970s.
C) failed miserably due to insufficient resources.
D) required that all involved health workers receive the MMR immunization.
E) was led by Edward Jenner.

24. Firm, waxy, elevated lesions with a depressed center and appearing white or pink and
expressing a milky, curdlike substance characterize
A) the lesions of herpes simplex.
B) Koplik spots.
C) the symptoms of fifth disease.
D) molluscum contagiosum.
E) the lesions of chickenpox.
25. All the following characteristics apply to the rhinoviruses except
   A) they are DNA viruses with helical symmetry.
   B) they belong to the Picornaviridae family of viruses.
   C) they take their name from the Greek rhinos meaning nose.
   D) they can cause head colds.
   E) they can be transmitted by hand-to-hand contact.

26. The scientific name for measles is
   A) rubella.
   B) variola.
   C) varicella.
   D) rubeola.

27. Viruses that have spikes on their envelopes and contain both hemagglutinin and
    neuraminidase cause
   A) chickenpox.
   B) influenza.
   C) smallpox.
   D) the common cold.

28. A respiratory disease which affects young children takes its name from the giant cells that
    form from the fusion of infected culture cells. These giant cells are called
   A) syncytia.
   B) Lipshutz bodies.
   C) Koplik spots.
   D) zoster cells.

29. Even though a virus that causes this disease has not yet been isolated, the course of the
    disease is suggestive of a viral agent. This disease is
   A) rubella.
   B) rubeola.
   C) molluscum contagiosum.
   D) Kawasaki disease.

30. In adults, mumps virus represents a threat to the reproductive organs. In males, infection
    of the testes with mumps virus is called
   A) oophoritis.
   B) papules.
   C) orchitis.
   D) pustules.
31. When adenovirus multiplies in the nucleus of an infected cell, it
   A) produces skin lesions called vesicles.
   B) causes visible nuclear granules called inclusions.
   C) induces nuclear changes called fomites.
   D) forms Koplik spots.

32. Each of the following diseases is caused by a member of the herpesviridae, except
   A) chickenpox.
   B) shingles.
   C) smallpox.
   D) cold sores.

33. A drug thought to inhibit viral disease because it is a base analog substitute is
   A) acyclovir.
   B) ZIG.
   C) amantadine.
   D) TORCH.

34. A virus closely related to the smallpox virus causes
   A) chickenpox.
   B) cold sores.
   C) molluscum contagiosum.
   D) mumps.

35. All of the following statements are associated with parainfluenza except:
   A) the parainfluenza virus is an RNA virus
   B) this is a disease associated with summer weather
   C) parainfluenza is generally a milder disease than influenza
   D) parainfluenza is most often seen in children under the age of 6

36. Select one of the following four choices for each of the diseases below:
   ______accompanying red patches called Koplik spots
   ______viruses undergo antigenic variation
   ______caused by the same virus that causes shingles
   ______cold sores, encephalitis or genital infections
   ______immunization with the MMR vaccine
   ______may be transmitted by sexual contact
   ______sometimes complicated by Reye's syndrome or GBS
   ______also known as varicella
A vaccine in common use has substantially reduced incidence of body rash somewhat similar to the scarlet fever rash. This rash is accompanied by fluid-filled, teardrop-shaped skin lesions, which are one of the TORCH group of diseases. Cesarean birth is necessary if diagnosed in a pregnant woman. Viral spikes contain neuraminidase and hemagglutinin. Active cases can be treated with amantadine. Acyclovir is used to lessen symptoms. Chickenpox, also known as rubeola, occurs in types A, B, and C. Recurring blisters in response to stresses may occur. Secondary bacterial disease may occur.

37. Match each word or phrase with its correct characteristic.

A vaccine in common use has substantially reduced incidence
Body rash somewhat similar to the scarlet fever rash
Fluid-filled, teardrop-shaped skin lesions
One of the TORCH group of diseases
Cesarean birth is necessary if diagnosed in a pregnant woman
Viral spikes contain neuraminidase and hemagglutinin.
Active cases can be treated with amantadine
Acyclovir is used to lessen symptoms
Also known as rubeola
Occurs in types A, B, and C
Recurring blisters in response to stresses
Secondary bacterial disease may occur

a. herpes simplex
b. influenza
c. measles
d. chickenpox

37. Match each word or phrase with its correct characteristic.

TORCH
Neuraminidase
Keratoconjunctivitis
Syncytia
Parvovirus
Macule
Vesicle
Variolation
Spike
Rhinovirus
Rubella
Measles
Herpes zoster
Neonatal herpes
Croup
SSPE
MMR
Kawasaki syndrome
Warts
VZIG
GBS
H spike

a. inflammation of cornea
b. diseases which may be congenitally acquired
c. giant cell that are fused
d. enzyme; assists virus to enter/exit cell
e. may cause fifth disease
f. sac containing fluid or gas
g. projection on viral envelope
h. discolored or pink spot on skin
i. major cause of common cold
j. immunization against smallpox
k. laryngitis, hoarse cough, and difficult breathing
l. RNA virus; causes Koplik spots and fever
m. RNA virus; causes mild symptoms in adults and fetal fatalities
n. encephalitis in newborn infants
o. causes chickenpox and shingles
p. viral cause not identified; fever, sore throat, and red spots, peeling skin on fingers
q. enzyme; on viral envelope
r. vaccine which protects against three viral diseases
s. benign skin growths
t. rare brain disease
u. condition of nerve damage, paralysis, and coma
v. protective globulins

38. The MMR vaccine provides immunization to measles, molluscum contagiosum and rubeola.
   A) True
   B) False

39. Evidence suggests that Reye syndrome and Guillain-Barre syndrome may both be triggered by influenza viruses.
   A) True
   B) False

40. The respiratory syncytial virus takes its name from syncytia, the giant cells that form from the fusion of infected culture cells.
   A) True
   B) False

41. Adenoviruses cause an intestinal disease characterized by the output of large amounts of water in the unrelenting diarrhea.
   A) True
   B) False
42. There are only three variants of rhinoviruses, which is why a vaccine for the common head cold is a real possibility in the future.
   A) True
   B) False

43. Warts are small, usually benign skin growths that are commonly due to viruses.
   A) True
   B) False

44. Immunization to smallpox may be rendered by injecting a preparation of cowpox viruses, as first demonstrated by Edward Jenner.
   A) True
   B) False

45. The causative agent of measles has thus far eluded microbiologists.
   A) True
   B) False

46. The mumps virus is widespread in nature and may be contracted by contact with one's pet or by consumption of contaminated water.
   A) True
   B) False

47. Kawasaki disease is so similar to mumps in viral cause and symptoms that the two diseases are often mistaken.
   A) True
   B) False

48. The characteristic signs of molluscum contagiosum are firm, waxy, wart-like lesions which yield a milky substance when depressed.
   A) True
   B) False

49. Genital herpes is a disease which only occurs once in a person's lifetime and for which immunization is available with a vaccine.
   A) True
   B) False
50. The measles rash begins on the hands and feet, then spreads to the body trunk where it is maculopapular.
   A) True
   B) False

51. Rubeola is a dangerous disease in pregnant women because the viruses localize on the placenta and pass across the umbilical cord to infect the fetus.
   A) True
   B) False

52. The fifth disease, also known as erythema infectiosum, affects children primarily.
   A) True
   B) False

53. An attack of mumps, whether in one gland or both, generally yields permanent immunity.
   A) True
   B) False

54. Having a mild form of smallpox would not necessarily immunize an individual against the disease if the serious form came along later.
   A) True
   B) False

55. At this writing, approximately 2000 cases of smallpox occur in the world annually.
   A) True
   B) False

56. Children one to two years of age account for most victims of Kawasaki disease.
   A) True
   B) False

57. Among the major causes of warts in humans are the papova viruses, a group of helical, RNA virions.
   A) True
   B) False

58. Adenoviruses have been associated with gene therapy experiments.
   A) True
   B) False
59. In adults, fifth disease causes symptoms similar to rheumatoid arthritis.
   A) True
   B) False

60. Certain groups of viruses cause numerous diseases in humans. Describe the various
diseases that may be due to adenoviruses, herpesviruses and poxviruses.

61. Explain the relationship between:
   chickenpox and herpes zoster
   mumps and orchitis
   influenza and Reye syndrome

62. Outline several factors and describe the efforts that have contributed to the elimination of
smallpox from the world.

63. Discuss the possible repercussions if genital herpes or rubella were contracted by a
pregnant woman.

64. Describe the immunization methods and materials available for protection against
smallpox, measles, mumps and rubella. Explain why immunizations for chickenpox,
   genital herpes and influenza are not available as yet.

65. Explain the meaning of each of the following terms:
   neuraminidase
   acyclovir
   syncytia
   TORCH
   desquamation
   Koplik spots
   vesicle
   pock
   V2IG
   molluscum body

66. Describe the salient differences in the skin rashes that occur in cases of measles, fifth
disease, smallpox and Kawasaki disease.
67. Explain the origin of the names for the following diseases:

- respiratory syncytial virus disease
- mumps
- fifth disease
- Kawasaki disease
- molluscum contagiosum
- chickenpox

68. Write a paragraph on influenza explaining the characteristics of the virus, the symptoms of disease, the methods for treatment and immunization and the complications that can develop from the disease.

69. Describe the important symptoms that distinguish cases of Kawasaki disease, molluscum contagiosum, chickenpox and mumps.
Answer Key -- Chapter 12

1. D
2. A
3. B
4. A
5. C
6. A
7. D
8. B
9. D
10. B
11. C
12. C
13. E
14. B
15. E
16. E
17. D
18. B
19. A
20. C
21. B
22. E
23. B
24. D
25. A
26. D
27. B
28. A
29. D
30. C
31. B
32. C
33. A
34. C
35. B
36. c,b,d,a,c,a,b,d,c,c,d,a,a,b,a,c,b,a,b
37. b,d,a,c,e,h,f,j,g,i,m,l,o,n,k,t,r,p,s,v,u,q
38. B
39. A
40. A
41. B
42. B
43. A
44. A
45. B
46. B
47. B
48. A
49. B
50. B
51. B
52. A
53. A
54. B
55. B
56. A
57. B
58. A
59. A
60. (No answer.)
61. (No answer.)
62. (No answer.)
63. (No answer.)
64. (No answer.)
65. (No answer.)
66. (No answer.)
67. (No answer.)
68. (No answer.)
69. (No answer.)