

91) Human papilloma viruses:

- a- can be readily grown in cell culture.
- b- do not produce subclinical infections.
- c- do not produce tumors in their natural hosts.
- d- replicate in terminally differentiated keratinocytes.



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Virology

أسئلة  
عالم الطويل  
(2010)

92) A chronic carrier state may occur in the following, EXCEPT:

- a- Hepatitis A
- b- Hepatitis B
- c- Hepatitis C
- d- Hepatitis delta

93) Hepatitis C virus, one of the following statement is incorrect:

- a- may be transmitted by blood
- b- has one stable genotype only
- c- is associated with hepatocellular carcinoma
- d- may respond to interferon therapy

94) Hepatitis A infection, one of the following statement is incorrect:

- a- is not infectious during the jaundice phase
- b- may result in chronic infection
- c- may be prevented by immunoglobulin
- d- may be prevented by vaccination

95) Which of the following serological profiles represents an individual who has been successfully vaccinated for HBV but never infected with the virus:

- a- anti HBs +, HBsAg-, anti HBc+
- b- anti HBs -, HBsAg+, anti HBc-
- c- anti HBs -, HBsAg+, anti HBc+
- d- anti HBs +, HBsAg-, anti HBc-

96) Regarding 'Arboviruses' one of the following statement is incorrect:

- a- Arboviruses fragile, many are reliant on vector for transmission.
- b- High incidence in tropical & subtropical regions (ex.- rubella, HCV).
- c- Complex life-cycles.
- d- Eradication practically possible.

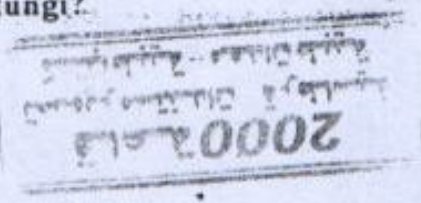


97) Which of the following statements is not true about dimorphic fungi?

- a- all of them have mycelium phase at 25C
- b- all of them have yeast phase at 37C
- c- can cause disease in healthy humans
- d- some of them are restricted to certain geographic regions

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98) Which of the following fungi cause superficial mycoses?

- a- Malassezia furfur
- b- Microsporum canis (Dermatophytosis)
- c- Cryptococcus neoformans (Opportunistic Mycosis)
- d- Sporothrix schenckii (Sub-cutaneous)

99) Which of the following disease is not caused by dermatophytes?

- a- scalp infection ✓
- b- nail infection ✓
- c- meningitis
- d- skin infection ✓

100) Which of the following disease is not opportunistic fungus?

- a- candidiosis ✓
- b- aspergillosis
- c- zygomycoses ✓
- d- coccidioidomycosis

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80) The following are recognized routes of transmission of HIV infection EXCEPT

- a. blood transfusion.
- b. heterosexual intercourse.
- c. breast feeding.
- d. nosocomial infection.

81) Regarding rotaviruses, one statement is TRUE

- a. members of the picornaviridae family.
- b. infect enterocytes at the apices of villi of the small intestine.
- c. common cause of diarrhea in adults.
- d. the disease produced by rotaviruses is treated by antiviral drugs.

\* 82) Characteristics of HCV virus include the following, EXCEPT

- a. the different genotypes have different geographic distribution.
- ⓑ genotypes 2 & 3 are more likely to respond to interferon.
- c. genus hepacivirus.
- d. has a lipid complex envelope.

83) Coxsackie B viruses are associated with the following diseases, EXCEPT

- a. myocarditis.
- b. pericarditis.
- c. herpangina.
- d. aseptic meningitis.

84) Which of the following diseases can be controlled by the use of killed vaccine

- a. tuberculosis.
- ⓑ poliomyelitis.
- c. measles.
- d. hepatitis B.

85) *Chlamydia trachomatis* is a widely prevalent human pathogen that

- a. is a common cause of urinary tract infection.
- b. is not usually transmitted sexually.
- c. does not respond to chemotherapy.
- d. is an intracellular obligatory parasite.

86) All the following may be associated with immunodeficiency due to HIV infection EXCEPT

- a. *pneumocystis carinii* pneumonia.
- b. *mycobacterium tuberculosis*.
- c. kaposi's sarcoma.
- ⓑ increased population of T helper lymphocytes carrying clusters of determinant type IV.

87) The causative agent of epidemic typhus is

- a. *Rickettsia rickettsii*.
- b. *Rickettsia akari*.
- c. *Rickettsia typhi*.
- ⓑ *Rickettsia prowazeki*.

88) Picornaviridae

- ⓑ is small non-enveloped RNA virus having positive-polarity genome.
- ⓑ include polioviruses, Coxsackie A & B, and enterovirus 71.
- c. all members of picornaviridae are acid stable.
- ⓑ include viruses that can cause meningitis.

Bacteri →



\* one of the following viruses cause gingivostomatitis  
a. HSV1      b. HSV      c. CMV      d. EBV

- 70) Which of the following does not cause diarrhea in children
  - a. rotavirus.
  - b. adenovirus.
  - c. norwalk virus.
  - d. coxsackievirus.

- 71) Which of the following microorganism is not teratogenic
  - a. rubella virus.
  - b. cytomegalovirus.
  - c. parvo B19 virus.
  - d. *treponema pallidum*.

- \* 72) In mumps, one statement is TRUE
  - a. incubation period is 2-3 weeks.
  - b. the disease is very infectious.
  - c. virus can be isolated from stool.
  - d. the disease can be prevented by passive immunization.

- 73) Regarding rubella, one statement is FALSE
  - a. is a member of the togaviridae.
  - b. is arthropod-borne.
  - c. can be grown in cell culture.
  - d. is rapidly inactivated at 56°C.

- \* 74) In paramyxoviruses, one answer is TRUE
  - a. segmented, single stranded RNA virus.
  - b. pleomorphic, double stranded DNA virus.
  - c. cause syncytia formation in infected tissues.
  - d. vaccination is not recommended.

- 75) The following are an obligatory intracellular microorganism, EXCEPT
  - a. rickets.
  - b. echoviruses.
  - c. *Chlamydia psittacci*.
  - d. *Ureaplasma urealyticum*.

- 76) Rhinoviruses have the following, EXCEPT
  - a. they are small RNA viruses.
  - b. they are spherical.
  - c. they are not enveloped.
  - d. they are acid stable.

- 77) The major cause of bronchiolitis in infants is
  - a. adenoviruses.
  - b. coronaviruse.
  - c. influenza B virus.
  - d. respiratory syncytial viruses.

- 78) The following malignancies are thought to have a viral etiology, EXCEPT
  - a. hepatocellular carcinoma.
  - b. colonic carcinoma.
  - c. adult T-cell leukaemia.
  - d. Burkitts lymphoma.

- 79) In cytomegalovirus infection, one statement is WRONG
  - a. is teratogenic.
  - b. primary infection is usually symptomatic.
  - c. may cause infectious mononucleosis-like illness.
  - d. may cause severe pneumonia in immunocompromised individuals.

The following viruses characterized by latency except  
 a. HSV1,2      b. VZV      c. CMV       d. poliovirus



\* 79) The following malignancies are thought to have a viral etiology, EXCEPT:  
a- Cervical carcinoma  
b- Breast cancer  
c- Nasopharyngeal carcinoma  
d- Burkitts lymphoma

80) The most reliable diagnostic test for HIV infection in the laboratory is:  
a- complement fixation  
b- neutralization  
c- ELISA and Western blot analysis  
d- non of the above

81) Regarding 'Arenaviruses', choose the one incorrect answer:

- a- Pleomorphic, enveloped particles, 50-300nm diameter.
- b- Cross-section, show grainy particles which are ribosomes acquired from host cells "sandy."
- c- Nucleocapsid icosahedral ssRNA.
- d- Envelope: 2 glycoprotein spikes, GP1 & GP2.

82) Bunyaviruses cause the following diseases, EXCEPT:

- a- Rift Valley fever
- b- Hantavirus fever
- b- Sand fly fever (Phlebotomous fever).
- d- Lassa-fever.

83) Adenovirus genome, choose the incorrect answer:

- a- Linear, segmented, ssDNA.
- b. Encode 30-40 genes.
- c. Genome structure is one of the characters used to assign viruses to groups.
- d. The terminal sequences of each strand are inverted repeats.

84) Rubella virus, choose the incorrect answer:

- a. Limited host range - mammalian cells only.
- b. Teratogenic agent (epidemic of congenital cataracts), CRS.
- c. Man is the only reservoir, transmitted by aerosols - highly contagious.
- d. A killed vaccine: MMR is used.

85) The following viruses and routes of infection are matched EXCEPT:

- a- Papillomaviruses and genital mucosa ✓
- b- Epstein-Barr virus and respiratory tract ✓
- c- BK and JC viruses and alimentary tract
- d- Cytomegalovirus and direct inoculation ✓

86) Molluscum contagiosum virus: *except*

- a- is a poxvirus ✓
- b- is routinely cultivated in cell monolayer
- c- has two recognized subtypes ✓
- d- is transmitted by direct skin inoculation ✓

\* 87) Cytomegalovirus (CMV): *except*

- a- exhibits latency ✓
- b- exhibits antigenic diversity ✓
- c- causes hydrops fetalis
- d- can be transmitted by blood ✓

88) Prions: *except*

- a- small proteinaceous infectious particles ✓
- b- elicit no immune response ✓
- c- can survive the heat (80°C) ✓
- d- they have virion structure and genome

\* 89) The following are useful in the diagnosis of infection with EBV: *except*

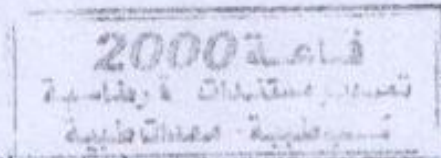
- a- Paul-Bunnell test ✓
- b- detection of cold agglutinins
- c- detection of antibody to nuclear antigens ✓
- d- Monospot test ✓

90) Recognized risk factors in the development of genital cancer include: *except*

- a- previous HSV-2 infection
- b- HPV-16 infection
- c- cigarette smoking
- d- chronic exposure to sun light

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- \* 114. In chickenpox, one of the following statements is wrong:
- a. incubation period is 3-4 weeks.
  - b. vesicular rash is characteristic.
  - c. the disease can be prevented by vaccination.
  - d. the disease can be fatal in debilitated patients.
- \* - 115. Live attenuated vaccines are available against the following viruses, EXCEPT:
- a. influenza A virus
  - b. hepatitis B virus
  - c. mumps virus
  - d. varicella-zoster virus
- \* 116. The following markers are usually present in hepatitis B carrier patient with chronic active hepatitis, EXCEPT:
- a. HBeAg.
  - b. HBsAg.
  - c. HBV-DNA.
  - d. anti-HBsAb.
117. The following viruses are associated with gastrointestinal infection, EXCEPT:
- a. rotaviruses.
  - b. lentiviruses.
  - c. caliciviruses.
  - d. astroviruses.
- \* 118. The following viruses are sexually transmitted, EXCEPT:
- a. herpes simplex virus type 2
  - b. papillomaviruses.
  - c. hepatitis B virus.
  - d. hepatitis E virus.
- \* 119. The following viruses cause vesicular skin rash, EXCEPT:
- a. Adenoviruses
  - b. smallpox virus
  - c. varicella zoster virus
  - d. herpes simplex virus type 1
- \* 120. Which of the following vaccines used to eradicate acute flaccid paralysis (poliomyelitis)?
- a. BCG vaccine
  - b. DPT vaccine
  - c. MMR vaccine
  - d. salk vaccine
121. The following viruses are oncogenic, EXCEPT:
- a. human papilloma viruses
  - b. hepatitis B virus
  - c. hepatitis C virus
  - d. hepatitis A virus
122. The following viruses are associated with congenital infections of the newborn babies, EXCEPT:
- a. hepatitis B virus.
  - b. cytomegalovirus.
  - c. varicella/zoster virus.
  - d. rubella virus.



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66) Type of immunity that is acquired through the transfer of soluble factors such as serum, or monoclonal antibodies from an immune individual to an unprotected one is called:

- a- active immunity
- c- adoptive immunity

- b- passive immunity
- d- immediate immunity

67) Positive selection means:

- a- apoptosis
- b- T cells differentiation

- c- T cells react with non-self antigens only and are allowed to exit the thymus
- d- T cells (CD4+ CD8+) through their TCR, recognize MHC expressed on APC.

68) T cells respond to all the following, EXCEPT:

- a- intact antigens
- c- processed antigens

- b- antigens presented on MHC class I molecules
- d- antigens presented by APCs

69) All nucleated cells in the body express:

- a- TCR
- c- MHC I

- b- MHC II
- d- CD3

70) B cell activation factor is:

- a- IL-6
- c- IL-13

- b- IL-4
- d- IFN- $\gamma$

71) Haematopoiesis does not occur in:

- a- bone marrow
- c- foetal yolk sac

- b- foetal liver
- d- spleen

72) The secondary lymphoid tissues include the following organs EXCEPT:

- a- the spleen
- c- Peyer's patches

- b- yolk sac
- d- tonsils

73) Mucosa associated lymphoid tissues (MALT) are:

- a- spleen
- c- bone marrow

- b- encapsulated lymphoid tissues
- d- non-capsulated lymphoid tissues

74) MHC II expressed on APCs can only recognize:

- a- TCR associated with CD3 and CD8
- c- TCR associated with CD2 and LAF-1

- b- TCR associated with CD3 and CD4
- d- TCR associated with ICAM-1

75) The following viruses have RNA genome, EXCEPT:

- a- Togaviruses
- c- Parvo B19 virus

- b- Flaviviruses
- d- Coronaviruses

76) The following viruses are characterized by latency, EXCEPT:

- a- Herpes simplex type 2
- c- Cytomegalovirus

- b- Varicella-zoster virus
- d- Polioviruses

77) One of the following viruses can cause gingivostomatitis:

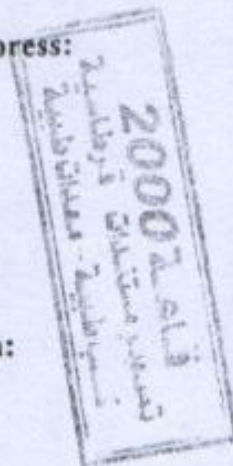
- a- HIV
- c- Herpes simplex type 2

- b- HTLV 1 and 2
- d- Hepanda virus

78) The following viruses resist GIT acidity, EXCEPT:

- a- Echo viruses
- c- Polioviruses

- b- Coxsackieviruses
- d- Rhinoviruses



123. All of the following are associated with HIV infection, EXCEPT:
- a. altered CD4/CD8 lymphocyte ratio
  - b. enhanced IL-2 production ;
  - c. kaposi's sarcoma
  - d. increased serum levels of specific IgG
- \* 124. One of the following viruses can cause gingivostomatitis:
- a. HIV
  - b. herpes simplex virus type 1
  - c. HTLV1 and 2
  - d. hepadna virus
125. Coxsackie B viruses are associated with the following diseases, EXCEPT:
- a. myocarditis.
  - b. pericarditis.
  - c. herpangina.
  - d. aseptic meningitis.
- \* 126. One statement is true concerning varicella-zoster virus:
- a. respond to AZT therapy
  - b. causes maculopapular rash
  - c. patients with shingles are not infectious
  - d. remains latent in sensory ganglia following primary infection
127. Concerning Parvo B19 virus, one statement is TRUE:
- a. is teratogenic
  - b. is oncogenic
  - c. causes molluscum contagiosum
  - d. may cause aplastic crisis in persons with haemolytic anaemia
- \* 128. In cytomegalovirus infection, one statement is not TRUE:
- a. is teratogenic
  - b. primary infection is usually symptomatic
  - c. may cause infectious mononucleosis like illness
  - d. may cause severe pneumonia and retinitis in immunocompromised individuals
- \* 129. Epstein Barr virus is associated with all of the following, EXCEPT:
- a. Burkitt's lymphoma
  - b. congenital anomalies in newborns
  - c. infectious mononucleosis
  - d. nasopharyngeal carcinoma
130. Viral encephalitis can be caused by one of the following:
- a. Dengue virus
  - b. Ebola virus
  - c. Japanese B virus
  - d. Yellow Fever virus



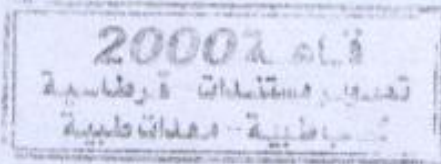
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\* 38. The following may have teratogenic effect on pregnant woman:

- A. Hepatitis C virus
- B. Rabies virus
- C. Enteroviruses
- D. Rubella virus

\* 39. Which of the following virus is zoonotic?

- A. Rubella
- B. Measles
- C. Rabies
- D. RSV



40. Coxsackie virus group-B is probably responsible for considerable cases of:

- A. Aseptic meningitis
- B. Mumps
- C. Acute hemorrhagic conjunctivitis
- D. Sever gastritis

\* 41. Neuraminidase antigen is absent in the following virus:

- A. Measles virus
- B. Mumps virus
- C. Influenza virus
- D. Parainfluenza virus



42. Regarding poliovirus, one of the following is true:

- A. They are transmitted by mosquito sting
- B. They rarely infect cells of the gastrointestinal tract
- C. They are of a single antigenic type
- D. They are transmitted by the fecal-oral route

\* 43. Which of the following phrases describes helical viruses?

- A. Have triangle shaped facets
- B. They have cubic shape
- C. Have cylindrical capsid
- D. Have complex shape

\* 44. Which of the following is not a usual diagnostic approach in virology?

- A. Isolation of viruses in cell culture
- B. Detection of viral antigens in serum
- C. Detection of antibodies against viral particles in serum
- D. Interferon estimation in patients



45. Which pair of the following viruses are members of the same family?
- A. Rabies and Rubella
  - B. HIV and Lassa viruses
  - C. Coxsackie A and Hepatitis E virus
  - D. Yellow fever virus and Hepatitis C virus
- \* 46. The following viruses usually cause vesicular skin lesions, except:
- A. Mumps
  - B. Small pox virus
  - C. Herpes simplex type 2 virus
  - D. Varicella Zoster virus
- \* 47. The following viruses are oncogenic, except:
- A. Human papilloma viruses
  - B. Hepatitis B virus
  - C. Hepatitis C virus
  - D. Hepatitis A virus
- \* 48. The virion consists of the following parts, except:
- A. Capsid
  - B. Cell membrane
  - C. Genome
  - D. Envelope
49. Viruses that enter the body through the skin by bites, abrasions or wounds include the following, except:
- A. Papilloma viruses
  - B. Molluscum contagiosum virus
  - C. Herpes simplex viruses
  - D. Rotaviruses
50. The following viruses cause hemorrhagic fever, except:
- A. Ebola virus
  - B. Lassa fever virus
  - C. Yellow fever virus
  - D. West Nile virus
51. The following are known routes of HIV transmission to humans, except:
- A. Sexual intercourse with an infected person
  - B. Contaminated needle stings
  - C. Transfusion of contaminated blood products
  - D. Bite of blood sucking arthropods (e.g. mosquitoes)



94. The immune cell which can only acts as APC during secondary immune response is:
- MQ
  - B cell
  - DC
  - T cell
95. The secondary lymphoid tissues include the following organs EXCEPT:
- the spleen
  - Payer's patches
  - tonsils
  - yolk sac
96. The end product of alternative, MBL and classical pathways is:
- antibody production
  - membrane attack complex (MAC)
  - C-reactive protein production
  - phagocytosis
97. In DiGeorge syndrome:
- agammaglobulinemia
  - IgM deficiency
  - defect expression of CD43
  - thymus fails to mature
98. Multiple sclerosis indicates that:
- antibodies produced against acetylcholine receptors
  - antibodies produced against myelin sheath of the neurons
  - antibodies produced against basement membrane of glomerulus
  - antibodies produced against B12 receptors
99. Phagocytosis can be enhanced by the following EXCEPT:
- IgG
  - C3b
  - C3a
  - opsonisation
100. Lymphocytes enter the lymph nodes from the blood through the:
- high endothelial venules (HEV)
  - peri-arteriolar lymphatic sheath (PALS)
  - efferent lymphatic vessels
  - afferent lymphatic vessels
101. - The following are considered as co-stimulatory factors EXCEPT:
- CD7
  - CD8
  - MHC molecules
  - CD28
102. The following are considered as primary immunodeficiency diseases EXCEPT:
- Bruton's disease
  - DiGeorge syndrome
  - SCID
  - AIDS
103. The systemic disease resulting from repeated injection of foreign proteins:
- rheumatoid arthritis
  - Arthus reaction
  - serum sickness
  - SLE



104. The most antigens that evoke immune response are:  
 a. TAAs  
 b. CEAs  
 c. TSAs  
 d.  $\alpha$ -FPs
105.  $\alpha$ -FP level increased after chemotherapy or surgery indicates:  
 a. non-malignancy state  
 b. liver cirrhosis  
 c. hepatitis  
 d. recurrent of malignancy
106. Temporarily lymph nodes could be activated:  
 a. At the site of infection  
 b. In the breasts during lactation phase  
 c. In the ovaries during luteal phase  
 d. In the tonsils during chronic phase of infection
- X 107. The following statements concerning mumps virus are false, EXCEPT:  
 a. is a member of orthomyxoviridae.  
 b. is a common cause of aseptic meningitis.  
 c. diagnosis by serology is not possible because of multiplicity of serotypes.  
 d. treatment can be achieved by antiviral drugs.
- X 108. The following are associated with hepatitis C, EXCEPT:  
 a. incidence of the disease is more common in adults.  
 b. may lead to hepatic failure.  
 c. carrier rate is about 5-10% of infected patients.  
 d. may respond to ribavirin.
109. Rhinoviruses have the following, EXCEPT:  
 a. they are small RNA viruses.  
 b. they are spherical.  
 c. they are acid labile.  
 d. diagnosis by serology.
110. The following viruses can cause eye infection, EXCEPT:  
 a. herpes simplex virus type 1.  
 b. herpes simplex virus type 2.  
 c. HTLV1 and 2.  
 d. adenoviruses.
- X 111. The following viruses have DNA genome, EXCEPT:  
 a. poxviruses  
 b. hepadnavirus  
 c. parvo B19 virus  
 d. togaviruses
112. Which of the following viruses is NOT enveloped?  
 a. corona viruses.  
 b. varicella/zoster virus.  
 c. measles virus.  
 d. rhinoviruses.
- X 113. All of the following are concerning measles, EXCEPT:  
 a. incubation period is considered short.  
 b. the disease is not very contagious.  
 c. virus can not be isolated from saliva.  
 d. the disease can be prevented by immunization.



9

61) Some substances are immunogenic when used as vaccine only if administered with

- a. opsonins.
- b. haptens.
- c. adjuvant.
- d. toxoids.

62) Type II hypersensitivity immune complexes are to foreign cells while in Type III hypersensitivity the immune complexes are in response to

- a. contact dermatitis.
- b. soluble foreign molecules.
- c. Rh factor.
- d. ABO blood group antigens.

\* 63) Chickenpox

- a. is an acute infection with an avian poxvirus.
- b. the skin lesions are non-infectious.
- c. the virus remains latent in T-lymphocytes.
- d. reactivation of latent virus may cause herpes zoster.

64) The feature of influenza A virus that contributes to antigenic variation is:

- a. RNA dependent RNA polymerase.
- b. segmented genome.
- c. high glycogen content which enhances binding to nucleoproteins.
- d. haemagglutinin (HA) consists of HA1 and HA2.

65) Which of these central nervous system diseases is not caused by prion

- a. Kuru.
- b. Creutzfeldt-Jakob disease.
- c. autosomal familial insomnia.
- d. progressive multifocal leukoencephalopathy.

66) All the following statements concerning rabies are true, EXCEPT

- a. wild dogs and vampire bats are the source of infection.
- b. inclusion bodies or negri bodies are diagnostic of rabies.
- c. viremia occurs 2-3 weeks after infection.
- d. the disease can be prevented by live attenuated vaccines.

\* 67) Epstein-Barr virus is implicated in

- a. shingles.
- b. Creutzfeldt-Jacob syndrome.
- c. nasopharyngeal carcinoma.
- d. diarrhea.

\* 68) The following viruses can cause vesicular skin lesions EXCEPT

- a. HSV I.
- b. YFV.
- c. vaccinia viruses.
- d. coxsackie viruses.

\* 69) Which of the following viruses is not enveloped

- a. pox viruses.
- b. hepadna.
- c. picornaviruses.
- d. toga viruses.



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  - c. breast feeding.
  - d. nosocomial infection.
- 93) Regarding rotaviruses, one statement is **TRUE**
  - a. members of the picornaviridae family.
  - b. infect enterocytes at the apices of villi of the small intestine.
  - c. common cause of diarrhea in adults.
  - d. the disease produced by rotaviruses is treated by antiviral drugs.
- 94) Characteristics of HCV virus include the following, **EXCEPT**
  - a. the different genotypes have different geographic distribution.
  - b. genotypes 2 & 3 are more likely to respond to interferon.
  - c. genus hepacivirus.
  - d. has a lipid complex envelope.
- 95) Coxsackie B viruses are associated with the following diseases, **EXCEPT**
  - a. myocarditis.
  - b. pericarditis.
  - c. herpangina.
  - d. aseptic meningitis.
- 96) Which of the following diseases can be controlled by the use of killed vaccine
  - a. tuberculosis.
  - b. poliomyelitis.
  - c. measles.
  - d. hepatitis B.
- 97) *Chlamydia trachomatis* is a widely prevalent human pathogen that
  - a. is a common-cause of urinary tract infection.
  - b. is not usually transmitted sexually.
  - c. does not respond to chemotherapy.
  - d. is an intracellular obligatory parasite.
- 98) All the following may be associated with immunodeficiency due to HIV infection **EXCEPT**
  - a. *pneumocystis carinii* pneumonia.
  - b. *mycobacterium tuberculosis*.
  - c. kaposi's sarcoma.
  - d. increased population of T helper lymphocytes carrying clusters of determinant type IV.

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80) The following viruses can cause vesicular skin lesions EXCEPT

- a. HSV I.
- b. YFV.
- c. vaccinia viruses.
- d. coxsackie viruses.

81) Which of the following viruses is not enveloped

- a. pox viruses.
- b. hepadna.
- c. picornaviruses.
- d. toga viruses.

82) Which of the following does not cause diarrhea in children

- a. rotavirus.
- b. adenovirus.
- c. norwalk virus.
- d. coxsackievirus.

83) Which of the following microorganism is not teratogenic

- a. rubella virus.
- b. cytomegalovirus.
- c. parvo B19 virus.
- d. *treponema pallidum*.

84) In mumps, one statement is TRUE

- a. incubation period is 2-3 weeks.
- b. the disease is very infectious.
- c. virus can be isolated from stool.
- d. the disease can be prevented by passive immunization.

85) Regarding rubella, one statement is FALSE

- a. is a member of the togaviridae.
- b. is arthropod-borne.
- c. can be grown in cell culture.
- d. is rapidly inactivated at 56°C.

86) In paramyxoviruses, one answer is TRUE

- a. segmented, single stranded RNA virus.
- b. pleomorphic, double stranded DNA virus.
- c. cause syncytia formation in infected tissues.
- d. vaccination is not recommended.

87) The following are an obligatory intracellular microorganism, EXCEPT

- a. rickets.
- b. echoviruses.
- c. *Chlamydia psittacci*.
- d. *Ureaplasma urealyticum*.

88) Rhinoviruses have the following, EXCEPT

- a. they are small RNA viruses.
- b. they are spherical.
- c. they are not enveloped.
- d. they are acid stable.

89) The major cause of bronchiolitis in infants is

- a. adenoviruses.
- b. coronaviruse.
- c. influenza B virus.
- d. respiratory syncytial viruses.



RNA  
Influenza Virus  
replicates in nucleus

x 77

- RNA virus replication steps, include all, Except :
- a. All RNA viruses replicate in the cytoplasm of the host cell.
  - b. The exact process varies with the species of virus.
  - c. All of the steps are independent of host DNA and occur in the cell cytoplasm.
  - d. After attachment, the virus particles are taken into the cell by viropexis.

78

- Steps of poliovirus replication cycle, include the following, Except :
- a. The entire poliovirus genome acts as its own mRNA, forming a polysome.
  - b. The polio genome is translated to form multiple small polypeptides which subsequently produce various viral capsid polypeptides.
  - c. The poliovirus genome serves as a messenger molecule.
  - d. Poliovirus contains four polypeptides.

79

- The following are DNA enveloped viruses, Except :
- a. Hepatitis-D virus.
  - b. Adenoviruses.
  - c. Herpes-viruses.
  - d. Pox-viruses.



80

- Ribonucleic Acid (RNA), features include the following, Except :
- a. Single and / or double stranded.
  - b. Positive-Strand RNA Viruses = positive polarity.
  - c. Negative-Strand RNA Viruses = negative polarity.
  - d. Segmented or unsegmented.

81

- Family Parvoviridae, properties all correct, Except :
- a. These are the smallest of the DNA-containing viruses.
  - b. The linear DNA is double-stranded and contains three to four genes.
  - c. The virion is a naked icosahedron with 32 capsomers.
  - d. The word parvo is taken from the Latin word *parvus* meaning small.

x 82

- Family Herpesviridae, properties include the following. Except :
- a. These are medium-sized, non-enveloped, viruses containing dsRNA.
  - b. The virion is an icosahedron with 162 capsomeres.
  - c. Human-herpesvirus, HSV1&2 cause herpes genitalis and herpes labialis.
  - d. Human-herpesvirus, HSV1&2 cause keratoconjunctivitis.

83

- Rhabdoviridae family, features include all, Except :
- a. This is a bullet-shaped virus with an enveloped helical nucleocapsid.
  - b. Genome segmented and positive-polarity ssRNA.
  - c. Vesicular stomatitis virus - causes vesicular stomatitis.
  - d. Rabies virus - causes rabies encephalitis.



16

16



- 84 . Family reoviridae (reoviruses), one of the following characteristics is untrue :
- a.  Unsegmented single-stranded RNA genome.
  - b. The virions are naked double icosahedrons with 32 large capsomeres in the outer capsid.
  - c. Colorado tick fever virus, causes encephalitis.
  - d. Rotavirus - agent of acute infantile diarrhea .

- \* 85 . Mumps virus, one of the following properties is untrue :
- a. Enveloped, helical nucleic acid, ssRNA negative-polarity.
  - b. Transmission via respirator droplets then via bloodstream to parotid gland.
  - c. Mumps, causes sterility due to bilateral orchitis .
  - d.  Killed virus vaccine is used for immunization.

- 86 . Hepatitis A virus, one of the following characteristics is incorrect :
- a. HAV is transmitted by faeco-oral route.
  - b.  Human are the only reservoir for HAV.
  - c. Virus appear in the faeces 2/52 before symptoms.
  - d. Children mostly infected.

- 87 . Parenteral-acquired hepatitis.
- a.  transmission via parenteral blood exposure.
  - b. presence of evolution into chronic disease.
  - c. evolution into cirrhosis ( liver-scarring ).
  - d. infant that acquire the infection at birth become less-likely-chronic carrier.

- \* 88 . HBV anti-bodies, which one of the following statements is incorrect :
- a. anti-HBs : indicates past infection with and immunity to HBV.
  - b.  anti-HBe : its presence in serum of HBsAg carrier suggest higher titer of viral load and predict liver damage and cirrhosis.
  - c. anti-HBe : indicates infection with HBV at some undefined time in the past.
  - d. anti-HBe-IgM : indicates recent infection with HBV positive for 4-6 months after infection.

- \* 89 . Modes of HCV transmission , include the following , Except :
- a. Mainly associated with blood transfusion (90%).
  - b. Haemodialysis and renal transplant (20%).
  - c.  Sexual contact is quiet common mode of infection.
  - d. Shared unsterilized or poorly sterilized needles & syringes.

- 90 . Host-immune response to HEV infection :
- a. viremia in bile and serum.
  - b. viremia precedes the major peak of ALT.
  - c.  shedding of HEV in faeces reach their peak at the time symptoms occur.
  - d. IgM and IgG antibodies develop at the time symptoms occur.



63. Ring worm is caused by : — 15 —  
a) Dermatophytes  
b) Aspergillus  
c) C. albicans  
d) C. tropicalis

64. All EXCEPT ONE are dermatophytes :  
a) Aspergillus  
b) Microsporum  
c) Trichophyton  
d) Epidermatophyton

65. Afla toxin is produced by :  
a) Asp. fumigatus  
b) Asp. flavus  
c) Asp. niger  
d) a + b + c

\* 66 . Characteristics features of viruses include the following, Except:  
a. Viruses are particles composed of internal core containing either RNA or DNA genome, covered by protein coat and some of them are enveloped.  
b. Viruses don't have nucleus, cytoplasm, mitochondria, or ribosome.  
c. Viruses must replicate with-in the cell i.e. obligate intracellular parasites.  
d. Viral replication occurs by binary fission or mitosis.

\* 67 . Viruses' properties choose the inappropriate answer:  
a. Viruses are obligate intra-cellular parasites.  
b. "Bacteriophages" means viruses that infect viruses.  
c. Out-side the cell, viruses consist of particle called "Virion".  
d. Virion range in size from as small as poliovirus to as large as vaccinia viruses.

\* 68 . Characteristics of viral structure, one of these statements is incorrect:  
a. Virus shapes are frequently referred to as: spheres, rods, bullet or bricks, but in reality they are complex-structure of precise geometric symmetry.  
b. Unlike the genome of all cells which are composed of DNA, virus genome contains their genetic information encoded in both DNA and RNA nucleotide.  
c. Since viruses are IC obligate parasites, only able to replicate inside the appropriate host cell.  
d. The genetic code employed by the virus must match or at least be recognized by the host organism.

\* 69 . Regarding viral structure, one answer is not true answer:  
a. DNA is always a single molecule.  
b. RNA can exit single molecule or several pieces.  
c. Haploid virus = contain only single copy of its genome, almost all viruses.  
d. Diploid virus = contain one copy of its genome eg. Retroviruses.

\* 70 . 'Large' DNA genomes viruses, all are true statements, Except :  
a. In many respects, these viruses are genetically very similar to the host cells which they infect.  
b. Two examples of such viruses are the adenovirus & herpesvirus families.  
c. All DNA genome viruses are single-stranded DNA.  
d. All DNA genome viruses replicate in the nucleus except Poxviruses.



X 71 . Negative-Strand RNA Viruses, features include all , Except :

- a. RNA with negative polarity has base sequence that is complementary to the mRNA.
- b. Viruses with negative-sense RNA genomes are a little more diverse than positive-stranded viruses.
- c. Negative-strand viruses tend to have larger genomes encoding more genetic information.
- d. Segmentation is a universal feature of such viruses.

72 . Ambisense genome organization, one of the following features is incorrect:

- a. Some RNA viruses are not strictly 'negative-sense'.
- b. Ambisense genome is part negative-sense and part positive-sense.
- c. Bunyaviruses are positive-sense, ambisense and not segmented.
- d. Assembly consists of long phage DNA which is produced during the later stages of vegetative replication.

73 . Enveloped viruses, characteristics include the following, Except:

- a. 'Naked' virus particles are those in which the capsid proteins are exposed to the external environment.
- b. Extrusion (budding) of the particle through the membrane, during which process the particle becomes coated in a lipid envelope derived from the host cell membrane with a similar composition.
- c. The structure underlying the envelope may be based on helical or icosahedral symmetry.
- d. All enveloped viruses bud from the cell surface membrane.

74 . Penetration occurs by one or more processes, Except:

- a. Enveloped viruses fuse their envelope with the membrane of the host cell.
- b. Penetration involves local digestion of the viral and cellular membranes, and concomitant release of the nucleocapsid into the cytoplasm.
- c. Enveloped viruses bind to receptor sites on the cellular membrane, digest the membrane and enter into the cytoplasm intact.
- d. Both naked and enveloped viruses can be ingested by phagocyte cells.

75 . Maturation and release of non-enveloped viruses, one answer is incorrect:

- a. The assembly of the capsid, associated together with the nucleic acid.
- b. Maturation occurs at the site of nucleic acid replication.
- c. After they are assembled into mature viruses, naked virions may become concentrated in large numbers at the site of maturation, forming inclusion bodies.
- d. Naked virions are released in similar ways, regardless of the virus and the cell type.

76 . "Budding" during which the following occur , Except :

- a. Budding is slowly and continuously process for virus release.
- b. The cell is not lysed.
- c. Large intracellular accumulation of virus occurs.
- d. Inclusion bodies are not as evident as with naked viruses.



- 71) All the following are examples of type IV hypersensitivity reaction EXCEPT
- Mantoux test (tuberculin test).
  - contact dermatitis.
  - Lepromin test.
  - Arthus reaction.
- 72) Tissue transplants between genetically not identical individuals of the same species is
- isograft.
  - autograft.
  - xenograft.
  - allograft.
- 73) Some substances are immunogenic when used as vaccine only if administered with
- opsonins.
  - haptens.
  - adjuvant.
  - toxoids.
- 74) Type II hypersensitivity immune complexes are to foreign cells while in Type III hypersensitivity the immune complexes are in response to
- contact dermatitis.
  - soluble foreign molecules.
  - Rh factor.
  - ABO blood group antigens.
- 75) Chickenpox
- is an acute infection with an avian poxvirus.
  - the skin lesions are non-infectious.
  - the virus remains latent in T-lymphocytes.
  - reactivation of latent virus may cause herpes zoster.
- 76) The feature of influenza A virus that contributes to antigenic variation is:
- RNA dependent RNA polymerase.
  - segmented genome.
  - high glycogen content which enhances binding to nucleoproteins.
  - haemagglutinin (HA) consists of HA1 and HA2.
- 77) Which of these central nervous system diseases is not caused by prion
- Kuru.
  - Creutzfeldt-Jakob disease.
  - autosomal familial insomnia.
  - progressive multifocal leukoencephalopathy.
- 78) All the following statements concerning rabies are true, EXCEPT
- wild dogs and vampire bats are the source of infection.
  - inclusion bodies or negri bodies are diagnostic of rabies.
  - viremia occurs 2-3 weeks after infection.
  - the disease can be prevented by live attenuated vaccines.
- 79) Epstein-Barr virus is implicated in
- shingles.
  - Creutzfeld-Jacob syndrome.
  - nasopharyngeal carcinoma.
  - diarrhea.

