

CHOOSE THE SINGLE BEST ANSWER FOR QUESTIONS 1 - 93.

1. The emergence of new viruses and/or new viral diseases can be explained by all of the following statements EXCEPT:
  - A. Viruses can undergo mutations
  - B. Viral mutants can sometimes jump species barriers
  - C. Reassortment of viral nucleic acid genomes can occur in nature
  - D. Changes in the environment can favor replication of some viruses
  - E. Viral proteins do not induce immune responses
  
2. Which one of the following is TRUE regarding the acellular pertussis vaccine?
  - A. More immunogenic and less commonly associated with side effects than whole cell vaccine
  - B. Equally immunogenic but less commonly associated with side effects than whole cell vaccine
  - C. More immunogenic and also more commonly associated with side effects than whole cell vaccine
  - D. Have same content of pertussis toxin as whole cell vaccine
  
3. Bacteremia with coagulase-negative staphylococci is generally treated with which antibiotic?
  - A. Nafcillin
  - B. Cefotetan
  - C. Vancomycin
  - D. Ceftazidime
  - E. Imipenem

4. All of the following statements regarding neonatal infections caused by *Streptococcus agalactiae* or *Escherichia coli* are TRUE EXCEPT:
- A. Infants are colonized following exposure to vaginal flora during childbirth
  - B. Disease symptoms are variable, and may include respiratory distress and fever
  - C. Prematurity and rupture of amniotic membranes more than 12 hours prior to birth increases risk of disease
  - D. Antimicrobial therapy should be immediately administered at first suspicion of disease
  - E. Transplacental infection can occur even when the mother has no obvious symptoms of disease
5. Which of the following agents is NOT adequate prophylaxis for meningococcal infections (assume that the organism is susceptible to all agents in vitro):
- A. Ceftriaxone
  - B. Ciprofloxacin
  - C. Penicillin
  - D. Rifampin
  - E. Sulfisoxazole
6. Passive transfer of antibodies across the placenta from mother to fetus is poorest for:
- A. *Escherichia coli*
  - B. Group B streptococci
  - C. Rubella
  - D. Varicella
  - E. Rubeola

7. Each of the following statements regarding poliovirus is CORRECT EXCEPT:
- A. It is a nonenveloped virus with a single-stranded RNA genome
  - B. The most common outcome of infection with poliovirus is paralysis of the muscles and extremities
  - C. The most prominent site of viral replication is the gastrointestinal tract
  - D. Complete protection against poliomyelitis requires that an individual have immunity against all 3 serologic types
  - E. Viral RNA is positive sense (mRNA) and can be translated directly into protein
8. The common infectious bacterial agents of acute meningitis share this virulence property:
- A. Endotoxin
  - B. Teichoic acid
  - C. Lipopolysaccharide
  - D. Capsule
  - E. Flagella
9. A severe infection with *Plasmodium falciparum* in which the patient had seizures followed by coma might be improved by treatment with all of the following regimens EXCEPT:
- A. Quinidine
  - B. Steroids
  - C. Tetracycline
  - D. Exchange transfusion

10. Which immunologic defect IS NOT usually seen in HIV infection?
- A. Cutaneous anergy
  - B. Abnormal phagocytic function
  - C. Increased circulating immune complexes
  - D. Increased percentage of suppressor T cells (CD8<sup>+</sup>)
  - E. Increased levels of immunoglobulins
11. Dengue virus is potentially dangerous because:
- A. It can produce hemorrhagic fever and shock syndrome
  - B. It contains a negative strand RNA genome
  - C. It does not undergo post-translational processing
  - D. It's genome consists of segments of double stranded RNA
  - E. It does not produce a sub-genomic mRNA

**REFER TO THE FOLLOWING CASE STUDY TO ANSWER QUESTIONS 12 - 14.**

A 19 year old, previously healthy female is admitted unconscious with a history of severe headaches and fever. She was feeling well 6 hours prior to admission. On exam, she had high fever, rapid pulse, and she was in shock. She has a diffuse petechial rash. The only other significant finding is nuchal rigidity.

12. Which pattern of the following cerebrospinal fluid (CSF) findings is most typical of this patient's illness?
- A. Glucose low; Protein elevated; White blood cell count (WBC) elevated; Gram stain: no organisms seen
  - B. Glucose elevated; Protein normal; WBC normal; Gram stain: no organisms seen.
  - C. Glucose low; Protein elevated; WBC elevated; Gram stain: Gram positive diplococci.
  - D. Glucose normal; Protein elevated; WBC elevated; Gram stain: no organism seen
  - E. Glucose low; Protein elevated; WBC elevated; Gram stain: Gram negative diplococci.

13. The patient spent the week prior to admission with her boyfriend. Appropriate treatment for him would be which one of the following?
- A. Intravenous penicillin
  - B. Oral penicillin
  - C. Intravenous vancomycin
  - D. Oral rifampin
  - E. No treatment because he isn't sick
14. Which diagnostic test would be LEAST LIKELY to provide the microbiologic diagnosis?
- A. Blood Culture
  - B. Cervical swab
  - C. CSF culture
  - D. Culture of skin lesion
  - E. Gram stain of skin lesion
15. Gender differences among AIDS patients include which one of the following?
- A. Significantly fewer cases of Kaposi's sarcoma among women vs. gay men
  - B. Shorter time from infection to AIDS among women
  - C. Differential efficacy of anti-retroviral therapy
  - D. Pregnancy related acceleration of HIV disease progression
  - E. Higher risk of anal carcinoma in women vs. gay men

16. Which of the following statements is INCORRECT concerning the dynamics of CD4 lymphocytes during the steady state phase of infection (no treatment) with HIV-1?
- A. The daily turnover rate of CD4 lymphocytes is estimated to be 25 - 78% higher than the turnover rate in normal, uninfected, individuals.
  - B. the patient's entire population of CD4 lymphocytes turns over every 15 days.
  - C. CD4 cell depletion in AIDS cells are primarily a consequence of destruction of these cells induced by HIV-1, not a lack of their production.
  - D. The daily turnover rate of CD4 lymphocytes in HIV-1 infected individuals has been shown to be no different than the turnover rate in normal, uninfected, individuals.
  - E. Levels of CD4 lymphocytes steadily decline during this phase of the infection.
17. Which one of the following clinical features is not part of the "classic triad" in meningitis?
- A. Nuchal rigidity (neck stiffness)
  - B. Fever
  - C. Vomiting
  - D. Change in mental status
18. A relatively rare infection in the United States, this protozoan is acquired from cats or from ingestion of uncooked infected meat. Encephalitis caused by this organism is seen more frequently in HIV infected patients. Diagnosis can be made on clinical grounds and may be confirmed by demonstrating the organism in tissue. This organism is also clinically important in organ transplant patients and in pregnancy. The organism best fitting the above characteristics is:
- A. *Toxoplasma gondii*
  - B. *Coccidioides immitis*
  - C. *Entamoeba histolytica*
  - D. *Salmonella species*
  - E. *Bartonella henselii*

19. All of the following statements about arboviruses are TRUE EXCEPT:
- A. They can grow in arthropod vectors
  - B. They can grow in a wide variety of vertebrates
  - C. Many arboviruses are members of the Togavirus family
  - D. They all have similar physical characteristics and replication strategies
  - E. They are enveloped RNA viruses
20. A radiographic examination confirms your diagnosis of a brain abscess. A fine needle aspiration reveals only Gram positive cocci. You know that the most likely organism is *Streptococcus intermedius* and start antimicrobial therapy. Three days later, the microbiology laboratory reports growth of a pure culture of a Gram positive coccus which is catalase negative. The organism is a strict anaerobe organism. The most likely organism is:
- A. *Staphylococcus*
  - B. *Peptostreptococcus*
  - C. *Enterococcus*
  - D. *Listeria*
  - E. *Nocardia*
21. Which one of the following statements regarding the epidemiology of bacterial meningitis is FALSE?
- A. The introduction of the *Haemophilus influenzae* vaccine has resulted in a dramatic decrease in the incidence of meningitis due to this pathogen in the pediatric age group.
  - B. *Streptococcus agalactiae* is a common cause of meningitis in neonates (0-1 month) and in infants one month to 3 months of age.
  - C. Aerobic Gram negative bacilli do not cause meningitis in adults greater than 50 years of age.
  - D. *Streptococcus pneumoniae* is the most common cause of bacterial meningitis in adults (13-50 year of age).

22. Which of the following statements on Pelvic Inflammatory Disease (PID) is NOT CORRECT?
- A. Complications of PID include: ectopic pregnancy, infertility and chronic pelvic pain.
  - B. PID is an ascending infection associated with cervico-vaginal flora including *Neisseria gonorrhoeae*, *Chlamydia trachomatis* and facultative vaginal anaerobes.
  - C. PID in Scandinavian countries is frequently caused by *Neisseria gonorrhoeae*.
  - D. Acute PID confers no effective protective immunity, implying that recurrent infections are possible.
  - E. Acute PID in the urban setting is frequently seen in adolescents/teenagers not employing barrier contraception.
23. Which of the following pathological changes to the Central Nervous System **ARE NOT** part of the pathology of Creutzfeldt-Jakob Disease?
- A. Spongiform degeneration
  - B. Neuronal vacuolization
  - C. Amyloid plaques
  - D. Loss of neurons
  - E. Lymphocytic infiltration
24. An 18 year old college freshman presents to the emergency department with what is diagnosed as acute meningitis. A PMN pleocytosis with elevated protein and decreased glucose is found in the CSF. The Gram stain results of the CSF is reported as numerous PMNs and rare intracellular Gram negative cocci. The most likely etiological agent of the meningitis is:
- A. *Echovirus*
  - B. *Cryptococcus neoformans*
  - C. *Listeria monocytogenes*
  - D. *Neisseria meningitidis*
  - E. *Staphylococcus aureus*

25. Most acute uncomplicated urinary tract infections seen in otherwise healthy young women are caused by:
- A. *Proteus mirabilis*
  - B. *Enterococcus fecalis*
  - C. *Klebsiella pneumoniae*
  - D. *Salmonella typhi*
  - E. *Escherichia coli*
26. Oncogenes:
- A. Are necessary for virus replication
  - B. Are retroviral coded proteins
  - C. Are produced by insertional mutagenesis
  - D. Code for proteins that regulate cellular growth
  - E. Are responsible for integration of retroviral genomes
27. Humans are the preferred hosts for ALL BUT which one of these causes of viral encephalitis?
- A. Venezuelan Equine Encephalitis
  - B. Herpes Simplex Virus
  - C. Varicella-zoster
  - D. Measles

**REFER TO THE FOLLOWING CASE STUDY TO ANSWER QUESTIONS 28 - 30.**

A 22 year old female has a 2 day history of urinary frequency, urgency and dysuria. She also complains of mild "upset stomach" and suprapubic discomfort. She states symptoms began approximately 1 1/2 to 2 days after she returned from a week long camping trip with her boy friend. She has never experienced such symptoms before. She is concerned that she may have a sexually transmitted disease even though she claims to have used a spermicide for contraception, which she believes are also effective in preventing certain infections. She is afebrile.

28. The best approach to this patient's problem is which one of the following?
- A. Urinalysis and urine Gram stain
  - B. Urinalysis and blood culture
  - C. Urinalysis and culture of urethral swab
  - D. Urinalysis and serum VDRL or RPR (for syphilis)
  - E. Urinalysis and culture of vaginal swab
29. The differential diagnosis for this patient reasonably includes all of the following EXCEPT:
- A. Cystitis
  - B. Pyelonephritis
  - C. Non-gonococcal urethritis
  - D. Herpes simplex infection (genital Herpes)
  - E. Syphilis
30. Which of the following IS NOT a risk factor for this patient's illness?
- A. Gender
  - B. Recent sexual activity
  - C. Use of "unimproved" toilet facilities during her camping trip
  - D. Spermicides

31. Concerning the epidemiology of sepsis:
- A. The number of cases of sepsis due to Gram-positive organisms has stayed relatively constant over the last 10 years.
  - B. The death rate decreased in the United States from infectious causes decreases from 1980 to 1990 as new antibiotics were introduced.
  - C. Aggressive chemotherapeutic regimens and indwelling intravenous catheters increase the risk for sepsis substantially.
  - D. The number of cases of Gram-negative bacteremia increased substantially from 1980 to 1990.
  - E. Gram-negative sepsis is hemodynamically distinct from Gram-positive sepsis.
32. Which of the following host factors may be an indicator of poor prognosis in a malaria infection?
- A. HbAS (sickle cell trait)
  - B. HbSS (sickle cell disease)
  - C. Lack of Duffy blood group antigens
  - D. HLAB<sub>s</sub>53
33. Latent herpes simplex virus resides in:
- A. Mucosal cells at the site of primary lesion
  - B. Reticuloendothelial cells
  - C. Sensory nerve endings
  - D. Nerve root ganglia
  - E. Spinal cord cells

34. *Trichomonas vaginalis*:
- A. Is an obligate intracellular parasite
  - B. Does not survive removal from the host and can not be cultured
  - C. Is infectious only in the elementary body stage
  - D. May result in infections with symptoms that persist for weeks or months
  - E. Rarely infects women
35. A 2 year old female is brought to the emergency department with symptoms of acute meningitis. No organisms are seen in a Gram stain smear prepared from the sediment of the centrifuged cerebrospinal fluid (CSF). 18 hours later, small pleomorphic Gram negative bacilli grew in the blood culture and the CSF culture has pin point growth on Chocolate agar but no growth on blood agar. The most likely organism causing the above infection is:
- A. *Haemophilus influenzae*
  - B. *Escherichia coli*
  - C. *Klebsiella pneumoniae*
  - D. *Citrobacter koseri*
  - B. *Neisseria meningitidis*
36. One of the most common sources of nosocomial pathogens is:
- A. Hospital bed linens
  - B. Hospital food
  - C. Hospital disposables such as needles and syringes
  - D. Care providers (nursing staff and attending physicians)
  - E. Gifts brought in by loved ones

37. Which of the following diseases is a Transmissible Spongiform Encephalopathy affecting humans?
- A. Subacute Sclerosing Panencephalitis
  - B. Creutzfeldt-Jakob Disease
  - C. Rabies
  - D. Progressive Multifocal Leukoencephalopathy
  - E. Toxoplasma gondii
38. Important steps in the pathogenesis of infective endocarditis include all of the following EXCEPT:
- A. Deposition of platelets and fibrin
  - B. Turbulent blood flow
  - C. Low flow state such as secundum atrial defects
  - D. Nonbacterial thrombotic endocarditis
39. All of the following statements about rhabdoviruses are TRUE EXCEPT that:
- A. They cannot be transmitted directly to humans by insect vectors
  - B. They are positive-stranded RNA viruses
  - C. They are enveloped
  - D. They have a bullet-shaped morphology
  - E. The viral genome must first be transcribed to produce viral mRNAs

40. A 56 year old woman is admitted to the intensive care unit with a fever, elevated pulse, and elevated respiration. Her WBC count is also elevated. It would be CORRECT to assume that she has:
- A. Sepsis
  - B. Septic Shock
  - C. Bacteremia
  - D. Septicemia
  - E. SIRS (Systemic Inflammatory Response Syndrome)

**REFER TO THE FOLLOWING CASE STUDY TO ANSWER QUESTIONS 41 - 42.**

A 45 year old man was attacked by a bobcat and bitten repeatedly about the face and neck. The animal was shot by a companion and brought back to the public health authorities.

41. Once you decide to immunize against rabies virus, how would you proceed?
- A. Use hyperimmune serum only
  - B. Use active immunization only
  - C. Use hyperimmune serum and active immunization
  - D. Use hyperimmune serum and follow this with active immunization only if adequate antibody titers are not obtained in the patient's serum
42. Which of the following is the most reliable method for a rapid and definitive diagnosis of rabies?
- A. Detect Negri bodies in corneal or brain tissue of patient
  - B. Inoculate a blood sample into cell culture and identify cytopathic effects
  - C. Determine if there is a four-fold rise in antibody titer over a 2 week period
  - D. Perform a necropsy on the animal
  - E. Do nothing until the symptoms become more specific for rabies

43. Antiviral therapy is currently not available for which of the following causes of encephalitis?
- A. Human immunodeficiency virus
  - B. Varicella
  - C. Herpes Simplex Virus
  - D. Western Equine Encephalitis
44. Which of the following is a suitable specimen for determining if a patient is suffering from bacteriuria?
- A. Urine collected from a bedpan
  - B. Mid-stream clean catch urine
  - C. Urine collected 48 hours earlier by mid-stream clean catch
  - D. Urine taken from a collection bag of a catheterized patient
  - E. Urine squeezed from a soiled bedsheet
45. The risk of meningococcal meningitis is increased in pediatric patients with:
- A. Basilar skull fracture
  - B. Asplenia
  - C. HIV infection
  - D. Deficiency of the terminal component of the complement system
  - E. Ventriculoperitoneal shunt

46. Which one of the following statements regarding the cerebral spinal fluid (CSF) findings in meningitis is TRUE?
- A. A diagnosis of aseptic meningitis is made when the CSF Gram stain is positive, but CSF cultures are negative.
  - B. In bacterial meningitis, greater than 50% of the white cells in the CSF are polymorphonuclear leukocytes.
  - C. In aseptic meningitis due to enteroviruses the CSF glucose is low.
  - D. In bacterial meningitis the CSF protein is low.
47. Which of the following virulence factors is NOT associated with mediating adherence of uropathogens to cells of the urinary tract?
- A. Type 1 fimbriae
  - B. Enterococcal aggregation substance
  - C. Urease
  - D. MR/P fimbriae
  - E. Staphylococcal Ssp
48. Osler nodes are:
- A. Hemorrhagic macular plaques with predilection for the palms and soles caused by systemic emboli.
  - B. Oval, pale, retinal lesions surrounded by hemorrhage, usually near the optic disc.
  - C. Splinter hemorrhages in the nail bed
  - D. Small, painful, nodular lesions on the pads of fingers and toes caused by immune complex deposition.
  - E. Petechiae on the buccal mucosa

49. Which of the following conditions predisposes a person to the development of Progressive Multifocal Leukoencephalopathy?
- A. Measles virus infection
  - B. Immunosuppression
  - C. Chronic HBV infection
  - D. Exposure to Bovine Spongiform Encephalopathy
  - E. B19 virus infection
50. Which species of malarial parasite(s) have a persistent liver phase (hypnozoites):
- A. Falciparum only
  - B. Falciparum and malariae only
  - C. Vivax only
  - D. Vivax and ovale only
  - E. All four species
51. A two week old infant develops acute meningitis. A spinal tap is performed and the laboratory reports: pleocytosis (5000 PMNs/ml), increased protein, decreased glucose and Gram positive cocci. The most likely causative organism which you must cover in your choice of antimicrobial therapy is:
- A. *Streptococcus pneumoniae*
  - B. *Streptococcus agalactiae*
  - C. *Streptococcus pyogenes*
  - D. *Escherichia coli*
  - E. *Klebsiella pneumoniae*

52. Pseudomembranous colitis may develop following:
- A. Disruption of colonic microflora with antibiotics
  - B. Consumption of spicy Cajun food
  - C. Ingestion of an enterotoxin
  - D. An autoimmune response to colonic epithelium
  - E. Infection with *Enterococcus faecalis*
53. SIRS (Systemic inflammatory response syndrome) is:
- A. Caused by elevated levels of cytokines
  - B. Synonymous with sepsis
  - C. Never caused by pancreatitis
  - D. Due to the direct effects of bacteria on the vasculature
  - E. Amenable to treatment with biologic response modifiers
54. Which one of the following statements regarding brain abscess is INCORRECT?
- A. Chronic sinusitis is more likely than acute sinusitis to lead to brain abscess.
  - B. Most patients with brain abscess present with signs and symptoms of acute sepsis.
  - C. Penetrating cranial trauma is likely to lead to brain abscess.
  - D. Finding a predisposing infection may help determine the microbiology of a brain abscess.
  - E. Surgical excision is preferred for encapsulated brain abscesses.

55. Conjunctivitis in a 14 day old infant is most likely to be due to:
- A. Chemical causes
  - B. Chlamydia infection
  - C. Gonococcal infection
  - D. Group B streptococcal infection
  - E. Group A streptococcal infection
56. A 45 year old male with a CD4 count of 120 is on the following antiretroviral regimen: AZT + ddI + nevirapine + ritonavir. In addition, he takes dapsone orally for prophylaxis against *Pneumocystis carinii* pneumonia. He comes to your office complaining of severe nausea and vomiting. The drug most likely to be responsible for this side effect is:
- A. AZT
  - B. ddI
  - C. Nevirapine
  - D. Ritonavir
  - E. Dapsone
57. After binding to the CD4 receptor, the HIV-1 virus fuses with cell surface molecules from which family of receptors?
- A. Complement receptors
  - B. Immunoglobulin Fc receptors
  - C. Chemokine receptors
  - D. T cell antigen receptors
  - E. Transferrin receptors

58. The following are TRUE statements regarding brain abscess EXCEPT:
- A. More common in children with cyanotic congenital heart disease
  - B. Usually polymicrobial in etiology
  - C. Cerebrospinal fluid culture is often positive
  - D. Surgery is not always necessary
  - E. Antibiotic treatment should include coverage for anaerobes
59. *Listeria monocytogenes*:
- A. Is an obligate human pathogen
  - B. Produces a polysialic capsule that increases its survival in blood and spinal fluid
  - C. Spreads from host cell to host cell by an actin polymerization-based motility
  - D. Causes infections which are primarily resolved by humoral immunity
  - E. Is non-hemolytic
60. A 32 year old woman with HIV infection has a CD4+ count of 320 and a viral load of 5,000/ml. She has never been on anti-retroviral therapy. All of the following are CORRECT EXCEPT:
- A. It would be safe to follow her off antiretrovirals because she is at low risk of disease progression with a viral load of 5000/ml.
  - B. She should be treated with a regimen such as AZT + 3TC + nelfinavir
  - C. She has shown evidence of disease progression despite her low viral load of 5000/ml.
  - D. It would be reasonable to assume that antiretroviral therapy would get the viral load in her plasma to undetectable levels.
  - E. Her CD4+ cell count is unlikely to increase by more than 150-200 cells.

61. *Streptococcus viridans* endocarditis is:
- A. Typically acute (fulminant)
  - B. A common cause of endocarditis following dental procedures
  - C. Indicative of a bad prognosis
  - D. A common occurrence on normal heart valves
  - E. An uncommon cause of endocarditis in patients with mitral valve prolapse.
62. Protease inhibitors prevent cleavage of which of the following HIV-1 polyproteins?
- A. env
  - B. env and gag-pol
  - C. gag and gag-pol
  - D. pol
63. Treatment of Kawasaki disease consists of:
- A. Antibiotics and high dose steroids
  - B. Intravenous gamma globulin and aspirin
  - C. Antibiotics and aspirin
  - D. Acyclovir and aspirin
  - E. Oral gamma globulin and aspirin
64. Enteroviruses have all of the following characteristics EXCEPT:
- A. Are carried by blood and lymph throughout body
  - B. Can survive over a wide pH range
  - C. Are transmitted by respiratory droplets
  - D. Stimulate a protective immune response
  - E. Can produce paralytic disease

65. Which of the following IS NOT TRUE regarding the use of antiretroviral agents for the prevention of HIV infection?
- A. Given during pregnancy and to newborns for their first 6 weeks of life, zidovudine monotherapy reduced perinatal HIV transmission by two-thirds.
  - B. Zidovudine monotherapy is currently recommended for all HIV infected pregnant women.
  - C. Certain antiretroviral drugs are being considered for use as topical microbicides to prevent sexual HIV transmission.
  - D. Given for one month to health care workers following percutaneous HIV exposures, zidovudine monotherapy reduced the risk of HIV transmission by 80%.
  - E. There is no proof that antiretroviral treatment for one month following sexual intercourse with an HIV infected partner reduces HIV transmission.
66. *Escherichia coli* K1 capsule:
- A. May enable the bacteria to resist killing by neutrophils
  - B. Is sufficient to account for all the virulence characteristics observed for this bacteria in neonatal disease
  - C. Is rarely found in *Escherichia coli* strains isolated from neonates with meningitis
  - D. Enables transplacental bacterial colonization of the developing fetus
67. Which statement pertaining to Hantaviruses is CORRECT?
- A. They are readily transmissible from human to human
  - B. They are not associated with renal failure
  - C. They are transmitted by infected rodent feces and urine
  - D. They have not been found in rats

68. Chorioretinitis, intracranial calcification, hepatosplenomegaly, and petechiae in a 3 day old infant are most likely due to:
- A. Congenital syphilis
  - B. Listeriosis
  - C. Group B streptococcal infection
  - D. Cytomegalovirus infection
69. Secondary syphilis:
- A. Typically produces lesions that are not infectious
  - B. Occurs only in patients already infected with *Chlamydia trachomatis* or *Neisseria gonorrhoeae*
  - C. Is never resolved by the immune system of infected hosts without treatment
  - D. May include symptoms of sore throat, fever, and rash
  - E. Is not the result of a disseminated infection
70. All of the following statements about poliovirus infections are CORRECT EXCEPT:
- A. Capsid proteins are derived by post-translational cleavage from a large precursor protein
  - B. Most infections are inapparent
  - C. Persistent viremia would favor central nervous system involvement
  - D. The virus is predominantly shed from the body and transmitted in respiratory droplets
  - E. Both killed and live, attenuated vaccines are available

71. A young boy with third degree burns over 30% of his body had developed an infection of the burned area 2 days after hydrotherapy. After noticing a slightly sweet odor coming from the boy's bandages, a nurse examined the burn under a Wood's lamp and it glowed. What organism was infecting this burn wound?
- A. *Staphylococcus aureus*
  - B. *Enterobacter aerogenes*
  - C. *Proteus mirabilis*
  - D. *Pseudomonas aeruginosa*
  - E. Herpes simplex 1
72. Which of the following IS NOT a cause of an indeterminate Western Blot HIV-1 antibody test?
- A. HTLV-1 infection
  - B. Acute Retroviral (seroconversion) Syndrome
  - C. HIV-2 infection
  - D. Coincidental cross reacting antibodies in an HIV-uninfected person
73. Women infected with *Neisseria gonorrhoeae*:
- A. Are rarely asymptomatic
  - B. Usually develop an immunity which protects them from subsequent infections
  - C. Can transfer the infection across the placenta to their developing fetus
  - D. Are at risk of developing pelvic inflammatory disease
  - E. Rarely have concomitant *Chlamydia trachomatis* infections

74. Viremia is a stage in pathogenesis that is required for:
- A. Localized infections
  - B. Production of hemorrhagic fevers
  - C. Production of anti-viral antibodies
  - D. Prevention of reinfection by viral mutants
  - E. Dissemination of influenza viruses
75. Appropriate information to impart to HIV infected women considering pregnancy include all of the following EXCEPT:
- A. Failure to disclose HIV+ serostatus to a sex partner when having unprotected intercourse is a felony in Michigan
  - B. Children of HIV infected women are likely to have genetic defects
  - C. Breast feeding can transmit HIV to uninfected offspring
  - D. Retroviral therapy during pregnancy can decrease the rate of vertical HIV transmission
  - E. C-section is an unproved strategy to decrease vertical transmission
76. Which of the following conditions IS NOT caused by *Chlamydia trachomatis*:
- A. Cervicitis
  - B. Urethritis
  - C. Endocarditis
  - D. Conjunctivitis
  - E. Epididymitis

77. A woman who is known to have positive serology for hepatitis B surface antigen (HBsAg) is about to deliver her first baby. Which of the following should be done?
- A. Give the mother hepatitis B immunoglobulin to prevent transmission of infection to the newborn
  - B. Give the newborn hepatitis B immunoglobulin within 12 hours
  - C. Give the newborn hepatitis B vaccine within 12 hours
  - D. Give the newborn both hepatitis B immunoglobulin and hepatitis B vaccine within 12 hours
  - E. Do nothing since none of the above has been shown to be of any benefit to the newborn
78. A patient with pneumonia caused by *Enterobacter* improves following treatment with \_\_\_\_\_ but then relapses; the organism is now found to have become resistant to the treatment drug.
- A. Imipenem
  - B. Trimethoprim/Sulfamethoxazole
  - C. Gentamicin
  - D. Nafcillin
  - E. Ceftizoxime
79. The leading cause of severe encephalitis in the neonate is:
- A. Cytomegalovirus
  - B. Herpes simplex virus
  - C. Group B streptococcus
  - D. *Toxoplasma gondii*
  - E. Epstein Barr virus

80. Proviral DNA:
- A. Is composed of a single stranded molecule
  - B. Is integrated into the chromosome of an infected cell
  - C. Is synthesized from RNA by a host polymerase
  - D. Remains in the cytoplasm of the cell
  - E. Is packaged into the retrovirus particle
81. Penetrating trauma of the abdomen that results in perforation of the colon, fecal spillage, and peritonitis could be treated with:
- A. Ampicillin/sulbactam
  - B. Vancomycin and ceftazidime
  - C. Metronidazole
  - D. Clindamycin
  - E. Gentamicin
82. The nef protein of simian immunodeficiency virus acts as a:
- A. Fusion protein
  - B. Trans-activator of viral transcription
  - C. Virion maturation factor
  - D. Virulence factor
83. Which of the following statements regarding Varicella-Zoster IS NOT TRUE?
- A. Varicella and shingles are caused by the same virus
  - B. Varicella can be modified/prevented by the administration of varicella-zoster immune globulin
  - C. Children with varicella should not be give aspirin
  - D. Acyclovir is effective treatment for varicella
  - E. Exposure of a non-immune individual to zoster results in zoster

84. Dengue virus can cause repeated infections in the same individual because:
- A. The virus is endemic in the tropics
  - B. The virus is transmitted by mosquitoes
  - C. Complexes of virus and specific antibody can form
  - D. There are 4 different serotypes of Dengue virus
  - E. It causes a systemic infection with viremia
85. Viral hemorrhagic fevers are characterized by all of the following EXCEPT:
- A. Bleeding in the gastrointestinal tract
  - B. Rapid onset
  - C. Bleeding in the liver
  - D. High fever
  - E. Paralysis
86. A child with HIV infection should receive all of the following vaccines EXCEPT:
- A. Diphtheria-Pertussis-Tetanus (DPT)
  - B. Oral polio vaccine
  - C. Hepatitis B vaccine
  - D. Measles-Mumps-Rubella (MMR)
  - E. *Haemophilus influenzae* B vaccine
87. What is the fastest rising mode of transmission among persons reported with AIDS in Michigan?
- A. Men having sex with men
  - B. Injection drug use
  - C. Heterosexual sex
  - D. Blood product recipient
  - E. Perinatal

MATCHING ITEMS

In each of the following groups there are two numbered lists. Mark on the answer sheet in the line corresponding to each question number in the lower list (88-93) the letter of the related item of the upper list.

DIRECTIONS: Select the option (A-E below) which best fits the descriptions numbered 88 - 90.

- A. *Chlamydia trachomatis*
- B. *Neisseria gonorrhoeae*
- C. *Treponema pallidum*
- D. *Candida albicans*
- E. *Trichomonas vaginalis*

- 88. Motile protozoan that can survive on moist surfaces
- 89. Has two morphologically distinct forms, the elementary body and the reticulate body.
- 90. Requires pili for colonization of host mucosal surfaces

DIRECTIONS: Select the option (A-E below) which best fits the descriptions numbered 91 - 93.

- A. Q Fever
- B. Pasteurellosis
- C. Leptospirosis
- D. Brucellosis
- E. Plague

- 91. Transmitted by water contaminated with urine
- 92. Transmitted by dust
- 93. Transmitted by animal bite or scratch