

Sample Exam 1-4; ISC 2937

Scientific Aspects

1) Which of the following infectious agents is capable of growth...

- A. Bacteria
- B. Virus
- C. Prion

2) Describe the difference between a bacterium, a virus, and a prion.

3) Describe the differences between the multiplication of a bacterium and a virus.

4) Name one bacterial disease and one viral disease. Describe the symptoms of each. For which type of disease can you use treatment? Prevention?

5) Describe the difference between prion and viroid diseases. Which has the greater impact on human society.

6) Coconut cadang-cadang disease and Mad-cow disease are devastating to their hosts. Describe the difference between the infectious agents of these diseases. Which of the two is more likely to affect man?

7) The purpose of a vaccine is _____ of disease.

- A. Treatment
- B. Prevention
- C. Eradication
- D. None of the above

8) What disease has been eradicated from the world? Which disease has almost been eradicated? Why were these two diseases targets for eradication?

9) The term "magic bullet" was termed by Paul Erlich at the beginning of the 20th century. Why are antibiotics considered to be magic bullets? Why is this idea of the magic bullet in jeopardy today?

10) Name two features of a bacterial cell that make it susceptible to antibiotics.

11) Ciprofloxacin is one of the antibiotics that is recommended by the FDA for the treatment of anthrax. Explain why this antibiotic course should not be started prior to disease diagnosis, and also discuss the reason(s) why a course of antibiotics should be completed even when disease symptoms have disappeared. What are some of the possible consequences of overuse of a particular antibiotic?

12) Who were the 19th century scientists that developed the germ theory of disease? What is the germ theory of disease? How would you demonstrate that a "germ" is the specific agent of disease?

13) Matching--use the old crossing lines.

<u>Disease</u>	<u>Agent</u>
Black Plague	<i>Yersinia pestis</i>
Anthrax	<i>Bacillus anthracis</i>
Mad-cow disease	prion protein
Smallpox	Variola virus
Aids	HIV-1
Hemorrhagic fever	Ebola, Marburg, Lassa Fever

14) Indicate the type of infectious agent by a check mark under the correct type.

<u>Disease</u>	<u>Bacterial</u>	<u>Viral</u>	<u>Prion</u>
Black Plague			
Anthrax			
Mad-cow Disease			
Smallpox			
Aids			
Ebola			
Tuberculosis			
Influenza			
Herpes			
Syphilis			
Measles			
Creutzfeldt-Jakob disease			
West Nile Encephalitis			
Yellow Fever			

15) Imagine yourself in Florence, Italy in 1347 (hard to do, I know, but humor me). Since you are lucky enough to have taken Dr. Reeves' class and have the knowledge of the 21st century, what is the one thing you would take back with you for your own protection? What advice would you give to the people of that time?

16) 150 years ago, the life expectancy of humans was 45 years. It is now almost 80 years. Give three different reasons why.