1) What was the purpose of the Human Genome Project.
2) How is it possible for E. coli to make human insulin.
3) PCR can be used to amplify DNA in a clinical sample. What are the steps?
4) Subunit vaccines can be made by genetic modification of yeast cells. What are the side effects of these vaccines?
5) Into which group would you place a photosynthetic organism that lacks a nucleus and has a thin peptidoglycan wall surrounded by an outer membrane?
6) In the scientific name Enterobacter aerogenes, Enterobacter is the genus or species?
7) How are bacteria and archaea are similar?
8) Protista is a diverse group of organisms, how are they similar?
9) The phylogenetic classification of bacteria is based on ________.
10) Staphylococcus and Streptococcus can be easily differentiated in a laboratory, how?
11) You have isolated a prokaryotic cell. The first step in identification is a(n) ________.
12) You have isolated a bacterium that grows in a medium containing only inorganic nutrients. Ammonia is oxidized to nitrate ion. What kind of bacterium is this?
13) Borrelia is classified as a spirochete because ________.
14) An organism that can grow photoautotrophically in the light and chemoheterotrophically in the dark is ________.
15) You see acid-fast oocysts in a fecal sample from a patient who has diarrhea. What is the most likely cause?
16) A definitive host harbors which stage of a parasite?
17) What is a persistent infection?
18) An example of a latent viral infection is ________.
19) In what ways do viruses differ from bacteria?
20) Nontoxic strains of Vibrio cholerae can become toxic when they are in the human intestine with toxic strains of bacteria. This suggests that the toxin genes are acquired by ________.
21) A clear area against a confluent "lawn" of bacteria is called a ________.
22) One effect of washing regularly with antibacterial agents is the removal of normal microbiota. This can result in ________.
23) Plague transmitted by a flea is an example of ________.
24) Symptoms of disease differ from signs of disease in that symptoms ________.
25) Koch's postulates don't apply to all diseases, why?
26) What is a nosocomial?
27) Cytopathic effects are changes in host cells due to ________.
28) Cholera toxin polypeptide A binds to surface gangliosides on target cells. What would happen if the gangliosides were removed?
29) What is ID50?
30) The mechanism by which gram-negative bacteria can cross the blood-brain barrier?
31) Which organism most easily causes an infection?
32) What are Siderophores, what do they do?
33) Septic shock due to gram-positive bacteria is caused by _______.  
34) The patient has vesicles and scabs over her forehead. Microscopic examination of skin scrapings shows gram-positive cocci in clusters. The etiology is _______.  
35) A 35-year-old woman has a red, raised rash on the inside of her thighs. Gram-stained skin scrapings show large budding cells with pseudohyphae. The infection is caused by _______.  
36) The etiologic agent of roseola is_______.  
37) A 45-year-old man has pus-filled vesicles distributed over his back in the upper right quadrant, over his right shoulder, and upper right quadrant of his chest. His symptoms are most likely due to _______.

Possible essay questions
- Explain how the presence of algae can indicate either pollution or productivity of a body of water.

- Bacteriophages are used as vectors in genetic engineering to insert new genes into bacteria. Describe the process that makes this genetic recombination possible.

- Some scientists are concerned that genetic engineering allows humans to tamper with evolution. Argue either for or against this position.