

fermented to produce beer is called the ____.

26. ____ is added to some wines to inhibit the growth of the naturally occurring yeast on the grape.

27. ____ filters are the most common way of secondary treatment of sewage in cities.

28. Bacteria are different from Archaea in their cell wall composition and their ____.

29. ____ in situ hybridization, also called FISH, is used to visualize individual bacteria within a group.

30. ____ methyl esters, also called FAME, is often used to identify anaerobes.

31. DNA chips rely on DNA/DNA ____ to detect specific sequences of DNA.

32. In bacteria, rRNA is often used as a(n) ____ chronometer.

33. Mitochondria and chloroplast evolved from free living bacteria through the process of ____.

34. Antibody ____ refers to the concentration of antibody in a sample.

35. ____ antibodies allow for visualization of the tagged bacteria under an epifluorescent microscope.

36. ELISA stands for enzyme linked ____ assay.

37. Because viruses are difficult to grow in the hospital they are often magnified by ____ and identified using probes.

38. The magnifying effects of ____ make ELISHA such a sensitive tool.

39. _____ columns can be used to demonstrate bacterial stratification in the sediment.

II. Briefly Define (2 points each)

40. Asilomar conference of 1975

41. Luminescent reporter gene

42. selective/differential media

43 DAPI counts

III. Discussion

44. What is the difference between an intoxication and an infection type food poisoning? Give an example of each. **(5 points)**

45. Define coliform and give me the differences in definitions and isolation techniques for coliforms vs. fecal coliforms. **(5 points)**

46. Once a foreign gene has been successful cloned it may not produce the recombinant protein in sufficient quantities. List at least 2 ways that you would try to insure that the recombinant protein is produced in its new host. **(4 points)**

Bio 425
Fall 2007

Name

I. Bacterial (B) or viral (V) infections (1 point each)

- ____ 1. Legionnaires disease
- ____ 2. Typhoid fever
- ____ 3. Peptic ulcers
- ____ 4. Mumps
- ____ 5. Hepatitis
- ____ 6. Lyme disease
- ____ 7. Syphilis
- ____ 8. Botulism
- ____ 9. AIDS
- ____ 10. Gonorrhea
- ____ 11. Common cold
- ____ 12. Cholera
- ____ 13. Rabies
- ____ 14. German measles

II. Fill in the Blank (2 points each)

15. Precipitin reactions bring molecules out of solution whereas ____ reactions bring particles out of suspension.

16. Vaccines made from denatured exotoxins are called ____.

17. A vaccine that protects against multiple diseases is said to be ____.

18. ____ diseases are the result of a mistake in the immune system which causes the immune system to attack its host.

19. Monoclonal antibodies are made by fusing cancer cells with B cells to form a(n) ____.

20. The immunity conferred on a baby raised on mother's milk is an example of a type of immunity called ____.

TEST IV
Bio 425
Fall 2006

Name

I. Match the genus/group with disease

(1 point each)

- ___ 1. *Corynebacterium*
- ___ 2. *Bordetella*
- ___ 3. Rhinovirus
- ___ 4. Rubeola
- ___ 5. Varicella
- ___ 6. *Neisseria*
- ___ 7. *Treponema*
- ___ 8. *Helicobacter*
- ___ 9. *Rickettsia*
- ___ 10. *Coxiella*
- ___ 11. *Borrelia*
- ___ 12. *Yersinia*
- ___ 13. *Clostridium*
- ___ 14. *Vibrio*
- ___ 15. *Entamoeba*
- ___ 16. *Salmonella*
- ___ 17. *Mycobacterium*
- ___ 18. Rubella

- a. whooping cough
- b. German measles
- c. gonorrhea
- d. red measles
- e. typhoid fever
- f. chickenpox
- g. typhus
- h. Lyme disease
- i. plague
- j. cholera
- k. peptic ulcers
- l. tuberculosis
- m. diphtheria
- n. botulism
- o. common cold
- p. syphilis
- q. dysentery
- r. Q fever

II. Fill in the Blank (2 points each)

- 19. The MMR vaccine gives immunity against red measles, German measles and ____.
- 20. Influenza viruses are identified by 2 surface antigens, hemagglutinin and ____.
- 21. Lyme disease is a zoonose spread from animals to human by ____.
- 22. Legionnaire disease is typically spread thorough contaminated ____.
- 23. Four corners disease is caused by a virus in the ____ group.

24. *Listeria monocytogenes* is often associated with prepared foods because it is ____.

25. *Clostridium* ____ causes a mild food poisoning often associated with un-refrigerated gravy.

26. ____ plague occurs naturally in wild animals and only occasionally infects man.

27. The industrial process of ____ refers to carefully inoculating increasingly larger volumes of culture.

28. Many antibiotics are ____ which means they are produced during the stationary phase of the growth curve.

29. In some wine the chemical, ____, is added to insure successful fermentation.

30. ____ is the name of the carefully prepared liquid that is actually fermented to make beer.

31. Primary sewage treatment is used to remove the solid material which is called ____.

32. ____ is often added in water treatment plants to increase coagulation.

33. In municipal water treatment plants the final step in treatment is to sterilize the water with either chlorine or ____.

34. Anaerobic digestion of sewage solids produces the gas, ____, which can be used or sold.

35. The aerobic breakdown of wine produces ____.

36. Recombinant pharmaceuticals produced in *E. coli* must be purified to remove ____

III. Briefly Define (2 points each)

50. *Chlamydia*

51. Intoxication food poisoning

52. *Cryptosporidium*

53. Luminescent reporter gene

54. DNA vaccine

55. FAME

56. AODC

Discussion

57. Why are restriction nucleases used in recombinant DNA work and what do they do? **(6 points)**

TEST IV

**Bio 425
Spring 2006**

Name

I. Fill in the Blank (2 points each)

1. Tuberculosis and ___ are 2 important human diseases caused by *Mycobacterium*.
2. The MMR vaccine protects against Red Measles, Mumps, and _____.
3. The Varicella virus causes the disease _____.
4. When an influenza virus is identified as H1N5, the H stands for _____.
5. The most common bacterial STP in college students is _____.
6. Detecting the presence of reverse transcriptase in a patient is used to diagnosis _____.
7. Genital herpes is caused by the virus _____ (full name).
8. Gonorrhea is caused by the bacterium _____ *gonoerhoeae*.
9. A chancre is the first symptom of the STP called _____.
10. _____ are diseases spread from animal to humans.
11. _____ virus is the causal agent of four corner disease.
12. The disease caused by most heat tolerant bacterium passed in milk is _____.

26. When grapes are pressed, they release the must and the solid material called ____.

27. ____ cloning involves cloning total fragmented DNA and then screening the multitude of clones produced.

28. ____ uses small bits of lambda virus to permit packaging of large pieces of foreign DNA inside a lambda viron.

29. ____ vectors have a controllable promoter that can be manipulated to turn the recombinant gene on or off.

30. *E. coli* continues to be the most widely used cloning vehicle even though it complicate produce purification because it produces ____.

31. The ____ plasmid is able to “naturally” genetically engineer plants.

32. The toxin gene from *Bacillus* ____ is frequently inserted into plant genomes to give them insect resistant.

33. DNA chips are also called ____.

34. Site directed mutagenesis is used to produce ____ mutations.

35 ____ is the molecule most commonly used by molecular biologists as evolutionary chronometers.

36. The FISH assay stands for fluorescent ____ hybridization.

37. The ____ ratio is particularly useful for bacterial taxonomy because it is not particularly susceptible to mutations.

38. ____ *Manual of Systematic Bacteriology*

is the definitive reference book for bacterial systematic.

II. Short Answer (2 points)

39. MPN

40. *E. coli* O157-H7

41. Biodics

42. BOD

43. Sparger

44. immobilized enzymes

45. insertion inactivation

III. Discussion

46. Describe the process by which Wilmington treats the drinking water we consume.
(4 points)

47. Describe in detail how you would produce human insulin using recombinant DNA technology. **(6 points)**

