## TEST III

Bio 425 Fall 2007		
	Name	
1. Fill in the Blank (2 points each)		
	1. Bacteriocins are antibiotics produced by bacteria that carry a(n)	
	2. The <i>E. coli</i> genome consists of open reading frames.	
	3. Interrupted mating experiments were used to generate the first <u>maps</u> .	
	4. During transposition the transposon removes itself from the genome and physically inserts into a new place in the genome.	
	5. When the F plasmid inserts into the genome it is called a(n)	
	6. Plasmids can be lost from a host cell by the process called	
	7. <i>Mycoplasma genitalium</i> has a very small genome consisting of only open reading frames.	
	8. Phase variation is caused by a gene that undergoes in the genome.	
	9. The presence of reverse transcriptase in the human body is indicative of infection with a(n)	
	10. Primary tissue culture lines must be transformed to form tissue culture lines.	
	11. A(n) assay is used to count bacteriophage.	

12. \_\_\_\_ proteins are used by viruses to establish themselves inside of the host.

13. A(n) \_\_\_\_\_ strand virus can make viral protein immediately upon entering the host cell.

14. \_\_\_\_\_ is the virus that was the first to have its genome sequenced.

15. The individual proteins that make up the coat of a bacteriophage are called \_\_\_\_\_.

16. \_\_\_\_ viruses have host membranes as their outer coat.

17. Many bacteriophages contain the enzyme \_\_\_\_\_ which is used to penetrate bacterial cell walls.

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18. The same virus causes chickenpox and

19. Both –SS and +SS DNA viruses must use a(n) \_\_\_\_\_ intermediate to reproduce.

20. \_\_\_\_ enzymes are used by bacteria to destroy viruses.

21. MS2 appears to have only enough genome to make 3 proteins but it makes 4 by using \_\_\_\_\_ genes.

22. The Mutator phage is an example of a(n) \_\_\_\_\_ phage.

23. Rhinovirus and Foot and Mouth are 2 examples of the \_\_\_\_ group of viruses.

24. \_\_\_\_\_ is the virus that contaminated the first polio vaccine.

25. A(n) \_\_\_\_\_ viral infection lays dormant for long period of time before reappearing and causing disease.

26. Viroids are naked circles of SS RNA which contain only \_\_\_\_ nucleotides.

27. Prions are thought to cause Kuru and

28. The most abundant bacteria in the human large intestine belongs to the genus

29. Bacterial cells are found in concentrations of \_\_\_\_/gm in the human large intestine.

30. \_\_\_\_ is an enzyme produced by some bacteria that destroy white blood cells.

31 .\_\_\_\_ are normal flora that produce the aroma we associate with body odor.

32. Bacteria produce some of the most powerful neurotoxins such as botulism toxin and \_\_\_\_ toxin.

33. Cholera toxin belongs to the subgroup of toxins \_\_\_\_\_ that affect the intestines.

34. <u>*pneumoniae*</u> can cause pneumonia but is often carried by healthy individuals.

35. A temporary benign bacteria infection of the blood is called a(n) \_\_\_\_\_.

36. The presence of the enzyme, \_\_\_\_, is highly correlated with virulence in *Staphylococcus*.

37. Humoral immunity is conferred by circulating proteins called \_\_\_\_.

38. Cell-mediated immunity is conferred by \_\_\_\_\_ cells.

# II. Briefly Define (2 points each)

39. R plasmids

40. Cytokines

41.Horizontial gene transfer

42. Penicillin selection

43. IgA

44. Enterococcus

# III. Draw (6 points)

45. Draw an IgG molecule and label its parts.

## **IV. Discussion**

46.Describe the differences and similarities between generalized and specialized transduction. (6 points)

## TEST III

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## Bio 425 Spring 2007

1. Fill in the Blank (2 points each)

## Name

 1. <i>Mycoplasma genitalium</i> has a very small genome with only open reading frames.
 2. <i>E. coli</i> has a larger genome that contains base pairs.
 3. The host makes up the outer coat of an enveloped virus.
 4. Some bacteriophage contains the enzyme,, which permits them to drill through the peptidoglycan of their host.
 5. Animal viruses grow in living animals or in culture.
 6. Bacteriophage creates when they grow in a lawn of it's host.
 7. When cancer is said to have that means simply that the cancer has spread from its point of origin.
 8. In the USA, Epstein Barr virus causes infectious
 9. A Rhabdovirus cause the human disease called
 10. A rhinovirus is classified as a RNA virus.
 11. Mad cow disease is thought be to cause by an infectious
 12, the best studied virus, can be either virulent or temperate.

13. The Mutator phage is an example of the largest member of the group\_\_\_\_.

14. *Propionibacterium* is typically found on human\_\_\_\_\_.

15. At one time the human stomach was thought to be sterile but now we know it can contain the bacterium, <u>pylori</u>.

16. The most abundant aerobic bacterium in the human large intestine is \_\_\_\_.

17. Cholera toxin is an example of a(n) \_\_\_\_\_ which is a subcategory of exotoxins.

18. The enzyme, \_\_\_\_, is highly correlated with virulence in *Staphylococcus*.

19. The most common cause of bacterial pneumonia is <u>pneumoniae</u>.

20. The human intestine typically has concentrations of bacteria at\_\_\_\_cells/gram.

21. A transitory non-threatening bacteria infection of the blood is called \_\_\_\_.

22. \_\_\_\_ pathogens are part of the body normal flora that ususally don't harm the body but under the right circumstance can cause disease.

23. A(n) \_\_\_\_\_ is an enzyme that attacks and destroys red blood cells.

24. \_\_\_\_\_ is the largest molecule of the immunoglobulins.

25. \_\_\_\_\_ is the only immunoglobulin capable of passing through the placenta from mother to child.

26. Antigenic determinants are also called

27. Some T cells release chemical signals called \_\_\_\_\_.

28. \_\_\_\_\_ vaccine consists of an antigen gene spliced into a plasmid.

29. \_\_\_\_\_ is generally considered the "father" of epidemiology.

30. \_\_\_\_\_ infections are ones you catch while you are in the hospital.

31. \_\_\_\_\_ are inanimate objects that are capable of spreading infection.

32. Typhoid Mary is the best known example of a(n) \_\_\_\_\_ carrier.

33. If a sufficient portion of a population is immunized so that an epidemic can't occur then the population is said to have \_\_\_\_\_ immunity.

34. A world wide epidemic is called a(n)

35. \_\_\_\_ refers to the practice of isolating sick individuals from the healthy population.

36. Strep throat is caused by the bacterium, *Streptococcus* \_\_\_\_\_.

37 Rubeola is another name for the disease,\_\_\_\_.

38. \_\_\_\_\_ is the drug that has made AIDS a manageable disease.

39. Varicella causes \_\_\_\_.

40. On college campuses, the most common STP is caused by a member of the genus\_\_\_\_.

 41. The test is a skin test to check for exposure to tuberculosis
 42. Diphtheria is caused by a member of the genus
 43. The presence of a chancre is diagnostic of the disease
 44. The surface antigens, hemagglutinin and, are used to characterize the different strains of influenza.

**II Draw (4 points)** 45.Draw and label the parts of an immunoglobulin molecule

### **III Discussion**

46. Why are influenza viruses so potentially dangerous? (3 points)

47. What is the difference between a polyclonal and a monoclonal antibody? How would you make a monoclonal antibody? (**5points**)

TEST III

**Bio 425** Fall 2006

## Name

1. Fill in the Blank (2 points each)	
	1. When a plasmid becomes imbedded in its host genome it is called a(n)
	2. In transposition, a new transposon is created which then insert randomly into the host genome.
	3. <i>E. coli</i> has about open reading frames in its genome.
	4. A(n) is an antibiotic produced by a plasmid that kills related strain that do not carry the plasmid.
	5 plasmids protect their host from commercial antibiotics.
	<ol> <li>The first gene maps were made using mating experiments.</li> </ol>
	7. The individual proteins that make up a capsid are called
	8. Primary tissue culture lines must be to create permanent tissue culture lines.
	9. A(n) consists on two insertion sequences with a gene in the middle.
	10. When cancer cells spread they are said to
	11. Infectious proteins are called
	12. The virus that causes chickenpox can reappear as the disease
	13. –SS RNA viruses must contain the enzyme,, to allow them to infect.

14. The first genome ever sequenced was the bacteriophage \_\_\_\_\_.

15. The T phages try to avoid their host defense mechanisms by incorporating the unusual base \_\_\_\_\_ in their genome.

16. Infectious naked circles of SS RNA are called \_\_\_\_\_.

17. \_\_\_\_ *Streptococcus* cause of strep throat.

18. The most abundant organisms in the human large intestine are \_\_\_\_.

19. \_\_\_\_ are cytolytic toxins that attack red blood cells.

20. \_\_\_\_ pathogen are part on the normal flora that only cause disease when they are in the wrong place or in a weaken host.

21. The enzyme, \_\_\_\_, is highly correlated with virulence in *Staphylococcus*.

22. Cholera toxin is a subcategory of exotoxins called \_\_\_\_.

23. \_\_\_\_ *pneumoniae* is the most common cause of pneumonia in humans.

24. T cells produce chemical signal called \_\_\_\_\_.

25. The particular portion of an antigen which attaches to the antibody is called a(n) \_\_\_\_\_.

26.Gamma globulins are produced by \_\_\_\_\_ lymphocytes.

27. Hybridoma are used to produce \_\_\_\_\_ antibodies.

28. \_\_\_\_ reactions are where particles clump and are removed from suspension.

	29 vaccines are denatured toxins.
	30 Vaccines are made by putting an antigen gene into a plasmid.
	31. The ACLU was founded to defend a chronic disease carrier named
	32 is a world wide epidemic.
	33. Incidence measure the number of new case is a time period whereas measure both the old and new cases of disease.
	34 are inanimate objects that spread disease.
	35 fever is caused by a <i>Streptococcus</i> that contains extra genes on a bacteriophage.
	36. Toxic shock is caused by a member of the genus
II. Briefly Define (2 points each)	

37. HFr

38. horizontal gene transfer

39. enveloped viruses

40. HIV

#### TEST III

Bio 425 Spring 2006

1. Fill in the Blank (2 points each)

#### Name

1. To increase the rate of transfer by \_\_\_\_\_, recipient cells can be made competent.

2. In \_\_\_\_\_ transduction only the genes near the phage insertion site can be transferred.

3. A(n) \_\_\_\_ plasmid codes for the ability to transfer itself from one host to another.

4. An HFr strain is a bacterium that carries its F plasmid as a(n) \_\_\_\_.

5. There are approximately \_\_\_\_\_ open reading frames in the *E. coli* genome.

6. The first \_\_\_\_ were created from the data produced from interrupted mating experiments with bacteria.

7. During \_\_\_\_\_ transposition, a second copy

of the transposon is produced and it inserts randomly into the host genome.

8. *Mycoplasma genitalium* with \_\_\_\_\_ open reading frames has the smallest genome of any free living bacterium.

9.A(n) \_\_\_\_ has as its outer coat its host's cell membrane.

10. Retroviruses all contain the unique enzyme, \_\_\_\_, in their viron.

11. All -SSRNA viruses must contain the enzyme, \_\_\_\_\_, in their viron.

12. Primary tissue culture lines can sometimes be transformed into \_\_\_\_\_ tissue culture lines.

13. All SS DNA viruses must reproduced through \_\_\_\_\_ intermediates.

14. In \_\_\_\_\_ viruses, upon entering the host their genome is immediately translated into protein .

15. The \_\_\_\_\_ sheath allows T7 phages to inject their genome into the host cell.

16. The MS2 bacteriophage is said to be "\_\_\_\_" specific because it attaches to the sex pili of its host.

17. \_\_\_\_ is an example of a latent virus found in humans.

18. Most common colds are caused by viruses in the group \_\_\_\_\_.

19. Influenza is a unique virus because its genome is \_\_\_\_.

20. Viroids are small circles of naked RNA that only contain <u>bases</u>.

21. Prions cause a disease in sheep called

22. Some viruses have <u>genes</u> genes in which a single piece of nucleic acid is used to make 2 different proteins.

23. \_\_\_\_ and Propionibacterium are generally the 2 most common bacteria found on our skin..

24. *Helicobacter* contains a species of bacteria that cause \_\_\_\_\_ in humans.

25. The most abundant bacteria in the human intestine belong to the genus, \_\_\_\_.

26. Animals raised germ free are called

.

27. \_\_\_\_ *pneumoniae* is the most common cause of bacterial pneumonia.

28. The human large intestine typically contains \_\_\_\_\_ cells per gram wet weight.

29. Pus is formed by \_\_\_\_ which destroys white blood cells at the site of the wound.

30. \_\_\_\_\_ are toxins that attack the lining of the intestine.

31. \_\_\_\_ cells produce cytokines which interacts with various components in the immune system.

32. Secretory immunoglobulins belong to the group called Ig\_\_\_\_.

33. Everyone has unique surface antigens called \_\_\_\_\_ which are used for tissue typing in preparation for organ transplants.

34. Allergies are caused by immunoglobulins in the group Ig\_\_\_\_.

35. Monoclonal antibodies are made by fusing B cells with cancerous cells called

36. \_\_\_\_ reactions occur when antibodies cause particles to come out of suspension.

37. \_\_\_\_ diseases are the result of the body's immune system mistakenly attacks it own body.

38. DNA vaccines are made by inserting antigen genes into a(n) \_\_\_\_.

39. \_\_\_\_ is considered the father of epidemiology.

40. \_\_\_\_\_ are inanimate objects that are capable of transmitting disease.

41. A(n) \_\_\_\_\_ epidemic is characterized by a rapid increase in the number of cases followed by a rapid decline.

42. \_\_\_\_ immunity is conferred when an adequate portion of the population is immunized.

43. <u>Mary spent many years in prison</u> just because she was a chronic carrier of disease.

44. \_\_\_\_\_ are spread from animals to humans.

45. *Bordetella pertussis* causes the disease known as \_\_\_\_.

46. Virulence in *Staphylococcus* is highly correlated with the presences of the enzyme, \_\_\_\_\_.

47. *Streptococcus* \_\_\_\_\_ is responsible for causing Strep throat.

**II. Draw (6 points)** 

48. Draw and label the parts of an IgG molecule.