Micr-22 Exam 2, Spring 2013, C. Briggs (1pt each, unless noted) Name: _____
Tip: Answer the questions you know first. At least guess on everything before you turn this in.

Vocabulary: Briefly define these terms in the space provided, as though you were speaking to someone who never took this class. (3pts each)

1. ATP:

2. Biofilm:

3. Lichen:

4. Intermediate host:

Short Answers: Words, drawings, charts – all are welcome.
5. Two fatty acid molecules are joined together in a reaction requiring energy. Is this reaction catabolic or anabolic? Why? 2pts

6. Variations in environment (temperature, pH, salt concentration) can inhibit enzyme function. Name and briefly describe three other ways to inhibit enzymes. 3pts

7. Fill in the following table with the carbon source and energy source of each type of organism 4pts:

Organism	**Carbon source**	**Energy source**
Photoautotroph	a.	e.
Photoheterotroph	b.	f.
Chemoautotroph	c.	g.
Chemoheterotroph	d.	h.

8. Please identify the appropriate domain and kingdom for each of these groups below. 3pts

	Domain	*Kingdom*		*Domain*	*Kingdom*
Molds			Helminths		
Yeasts			Plants		
Algae			Arthropods		
Protozoa			Slime molds		
Clostridium spp.		n/a			

9. One of your co-workers is having trouble getting a bacterium from the phylum Bacteroidetes to grow in a petri plate. What might you suggest? 1pt

10. What is one of the bacteria involved in Swiss cheese production? (Remember your formatting!) 1pt

11. Why does anyone care about plasmodial slime molds? 1pt

12. While on vacation in the Yucatan, you're asked by some locals to help narrow down the likely arthropod vectors of an emerging bacterial disease. What characteristics (feeding habits) will you look for among thousands of possible vectors? Why? 2pts

13. Parasitic intestinal worms are found worldwide. Name two strategies that can help limit their transmission. 2pts

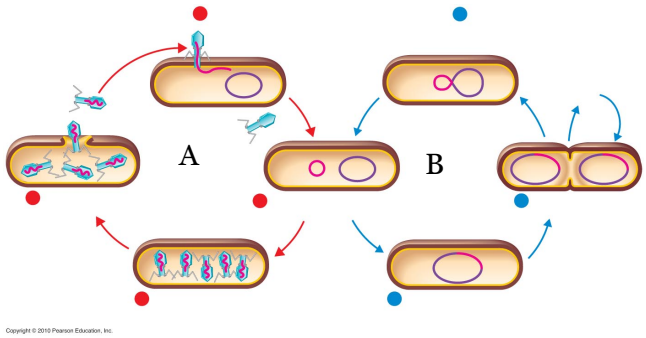
14. a. Why are bacterial cultures and embryonated eggs often used to grow viruses rather than live animals? 1pt

b. Why are animals then still used in some situations? 1pt

Label the cycles as "lysogenic" or "lytic" in this figure: 1pt

A:

B:



15. What are two important potential effects of lysogeny on the bacterial cell? 2pts

16. Bacteria generally require a specific temperature and pH to grow. What are the physical molecules that cannot tolerate large deviations from these optimal conditions, and why are they so picky? 2pts

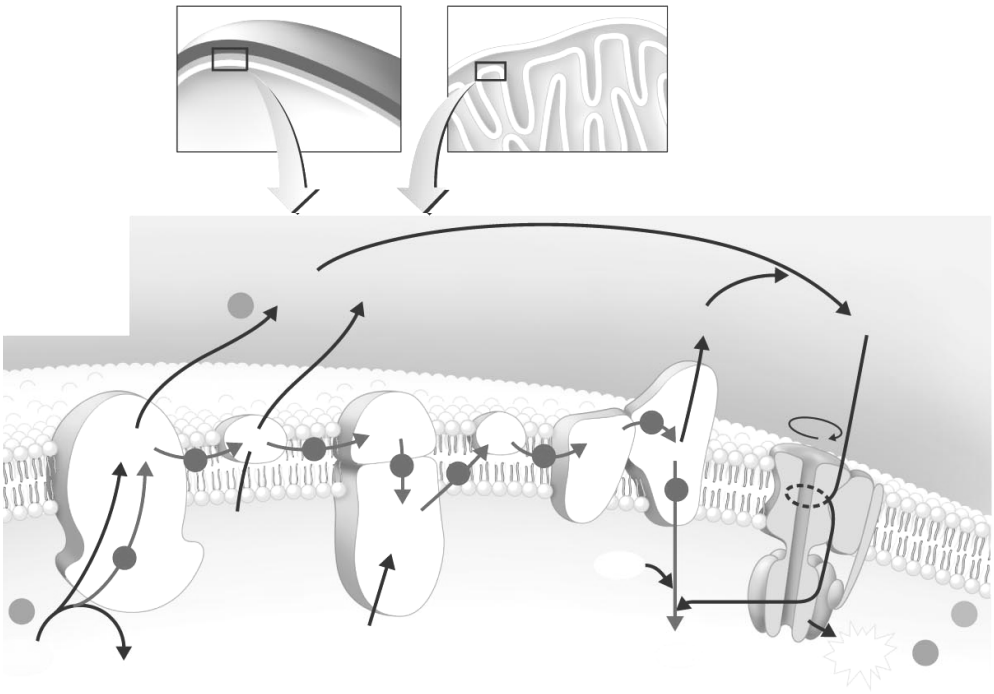
17. A culture medium on which only gram-positive organisms grow is called a(n):
A) selective medium. B) differential medium. C) enrichment culture.

18. A culture medium on which a yellow halo surrounds *Staphylococcus aureus* colonies is called a(n):
A) selective medium. B) differential medium. C) enrichment culture.

19. Name three products of glycolysis. 1pt

20. Name four products of the Krebs cycle. 2pts

21. This is figure 5.16, showing electron transport and the chemiosmotic generation of ATP. Explain what is happening here as best you can. (You may label parts if you wish. Some of the dark circles were originally step numbers, not objects.) 4pts



22. Log_{10} 100,000,000 = _____

23. Use this graph to answer parts (a) and (b):

a. About how many bacteria are present when time=2 days? 1pt

b. Name the growth phase labeled "B." 1pt