Microbiology (Bio 206)
Problem Set #5

These problems are intended to be similar to questions you might see on an exam.
An answer key is posted on the course Web site:
english.sxu.edu/~visick/micro.htm (click on Answer Keys)

1. Match the following organisms with their major virulence factors. One letter per blank, but you can use the letters more than once or not at all.

- EHEC
  - a. Endotoxin

- Neisseria gonorrhoeae
  - b. Heat-labile enterotoxin

- Clostridium botulinum
  - c. Urease

- Mycobacterium tuberculosis
  - d. Pili proteins changed during infection

- Staphylococcus aureus
  - e. Mycolic acids

- Helicobacter pylori
  - f. Ability to form spores
  - g. Shiga-like toxin
  - h. Heat-stable enterotoxin
  - j. Hyaluronidase
  - k. Endoflagellum

2. When someone has a urinary tract infection, where did the bacteria causing the UTI usually come from?

3. Suppose you are looking at Gram-stains made from clinical specimens?
   - a. If you observed Gram-positive cocci, what two organisms that we’ve discussed might you be seeing? How might you tell these two apart?
   - b. If you observed Gram-negative cocci, what might your diagnosis be? What other characteristics would you expect to see?
   - c. If you observed Gram-negative rods, what possible organisms might you be seeing? Could you tell these apart microscopically? What other tests might you use?

4. What are two reasons why syphilis has nearly been eliminated in the US, but gonorrhea is still going strong?

5. Explain how structural differences between the Hepatitis A and Hepatitis B viruses contribute to differences in how these organisms are transmitted.