

**Microbiology 2730
Study Guide #7
Winter Semester 2008
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LABORATORY SECTION

The following laboratory questions are based on the demonstration materials put at the front of laboratory

Neisseria gonorrhoeae

1. As your textbook notes, it is very important for these bacteria to attach to cells of the body if they are going to be successful in maintaining themselves in the body. What is the structure that these bacteria have that allows them to attach to body cells?
2. Your textbook cites 3 factors which influence the incidence of gonorrhea. What are those factors?
3. The gonorrhea causing bacteria are somewhat unusual in that although they are cocci, their Gram reaction is ___ in nature.
4. Of the STDs that are caused by bacterial organisms that are mentioned in your textbook, where does gonorrhea rank in terms of number of cases in the USA on a yearly basis?

Trichomonas vaginalis

1. You had the opportunity to view this organism via the front cover of the January 12, 2007 issue of Science. This is another agent of STD. Unlike the bacterial forms that you have been introduced to, this disease agent is a form of ___.
2. According to the data in your textbook, approximately how many Americans contract this disease agent in a year?
3. Generally speaking, what is the treatment for this condition?
4. While both males and females can show symptoms, it is more common for infected ___ to be asymptomatic for this condition.

LECTURE SECTION

1. You were introduced to the concept of the bioassay for determining if an autoclave has done its “job” (sterilization). You should be able to briefly explain how the “spore vial” system “works”.
2. You were also introduced to the concept of the “time tape” system that can be used to determine if materials have been autoclaved. You should be able to briefly describe the principle behind this tape.
3. In my brief discussion of radiation sterilization, you were introduced to the idea of mode of action (specifically UV light). What is meant by this term? What is the mode of action of germicidal wavelengths of Ultra Violet (UV) light?
4. It was noted in class, there are two major reasons for doing some “checking” before autoclaving materials that you are not familiar with. What were those reasons? Note, the same can be said for other forms of sterilization but since autoclaving is the most commonly employed technique, your examples came from the use of an autoclave.
5. A brief period of time was spent discussing the process of pasteurization. How did I define this type of microbial control?
- 6.. As an example of the use of pasteurization, I cited the pasteurization of milk. This process originated as an attempt to protect us from acquiring the bacterium, which causes _____. Why would you expect to find this bacterium in milk on occasion?
7. You were also introduced to environmental manipulation as a means to control the growth of microorganisms. What were the 4 aspects of the microbial environment that were mentioned in class as being frequently subjected to manipulation?
8. When cooling materials such as soups, care must be taken to drop the temperature of the material quickly. From the point of view of microbial safety of the material, why is this so?
9. Generally speaking, what is the effect of “cold” on populations of microbial agents?
10. Another approach to the control of microbial populations that was noted in class involved their control by the use of various chemicals. The modern era, in regard, grew out the interest of _____(name of investigator) in the control of infections
11. The above-mentioned individual initially used _____ in an attempt to control infections.
12. What comment did I make concerning the chemical nature of disinfectants and antiseptics. What kind of surfaces are disinfectants designed to be used on? What kind of surfaces are antiseptics designed to be used on?

13. If a disinfectant is described as being germicidal, what does that imply? If it was described as being bacteriostatic, what does that imply?
14. 4 major complicating factors were noted in class that have to be taken into account when making use of disinfectants. What were those factors?
15. You were also introduced to another chemical system for sterilizing materials, the Sterrad system. The principle sterilizing mechanism in this system involves exposing the material to ___ in the gaseous state. This system makes use of relatively ___ temperature. One of its selling points is that the materials when sterilized can be quickly used because they are supposedly free of irritating chemical ____.