

Miramar College
Biology 205 General Microbiology
Lab Midterm Exam II Study Guide

The following questions are meant to guide your studying, and are not meant to replace carefully studying your lab manual, lab notebook and any handouts you have received in lab. Do not assume that something will not be on the exam simply because it does not appear on this study guide. Remember to bring a calculator!

Determination of a Bacteriophage Titer

- Know introductory material.
- Understand and be able to perform serial dilutions and to recognize and count PFUs.

Physiological & Biochemical Tests for Minor & Major unknowns

- For all of the tests performed in lab, be able to identify: the media used, the chemical being tested, and a positive and negative result as well as what enzymes are present and causing the reactions you see. You can be sure that you will see several of these media out and you will need to determine “what’s happening.” For instance, if there is a lactose Durham sugar tube and it is cloudy, yellow and there is marked gas in the inverted vial: the organism has fermented lactose, producing both acid & gas. There is a helpful “cheat sheet” at the end of your Minor Unknown handout.
- Be familiar with the use of dichotomous keys to determine the group to which your bacterial unknown belongs.

Lab Handout: Simulated Epidemic

- Know the introductory material.
- Understand how herd immunity and host susceptibility affect flu prognosis.

Staphylococci: Isolation & Identification

- Know introductory material.
- Know the tests that were available to you in class that help to differentiate between staphylococcal species, and which tests we did to isolate staphylococcal species.
- Recognize staphylococcal bacteria on a Gram stain.

Streptococci: Isolation & Identification

- Know introductory material.
- Differentiate between β -hemolysis and α -hemolysis and know which media is used to determine this property.
- Recognize streptococcal bacteria on a Gram stain.
- Understand how to determine a streptococcal group using the table in your SSE handout.

Gram-Negative Enteric Pathogens

- Know introductory material.
- Know the tests routinely used to differentiate normal flora from pathogens, and the pathogens used in this lab.
- Know the use of the various media used in this lab.
- Recognize these bacteria on a Gram stain.

ELISA

- Know introductory material.
- Understand the difference between direct and indirect ELISAs, which did you perform?
- Be able to recognize positive and negative results and understand how those results are determined.

Bacterial Examination of Water: Qualitative Tests & Handout

- Know introductory material for lab manual and Colilert® Test Kit.
- Differentiate between a presumptive test and confirmed test. What are the plusses & minuses for each?
- Understand the use for each of the media in this lab activity.
- Understand how to calculate the MPN.

Dental Microbiology

- Know introductory material.
- Understand the “mechanics” behind the Snyder test *i.e.* what’s happening in your tubes.
- Be able to identify a positive and negative Snyder test and explain what that means in terms of dental caries risk.