

## Lab quiz material

### Microscope

During the process of storing the microscope for later use describe the 3 steps we use to clean the oil off the 40 and 100x objective lenses

How is the microscope electrical cord stored upon the microscope?

As one increases the magnification from 100x low power to 1000x oil power what happens to the field of view. \_\_\_\_\_ To the working distance between the objective and the slide: \_\_\_\_\_ (2 pts)

### Aseptic Techniques (Lab book or test book)

Please review why we disinfect our work areas prior to use.

What method is used to sterilize transfer loops

Why is the culture tube heat sanitized about its rim between removal and replacement of the culture tube cap

How can microbial levels be controlled on the skin? On surfaces in the environment - like the telephone? In the air?

### Smear Preparation

Why must smear thickness be considered before performing a simple or Gram stain?

If you are to make a simple smear of a bacteria culture describe the steps you follow:

Explain why simple smear require heat fixation:

### Gram Staining

Be able to fully outline the steps performed during a gram stain process.

Why do some bacteria gram stain positive while others gram stain negative?  
(Explain the physical structure of the two types of bacteria)

Comparing the staining used with Gram stain technique to that of counter stain, how does the counter stain differ from the primary stain?

Which is the most critical step in the Gram stain procedure? Why? If this step is left out how are the final results impacted?

As an instructor I notice a student to have correctly preform a simple culture smear procedure. However, upon completing the Gram staining procedure and then viewing the slide apparently no bacteria could be found. What may have occurred? (please note 2 procedural missteps which may have occurred and very briefly explain.

### Endospore Stain

Microbes of the genera *Clostridia* and *Bacillus* form spores as the nutrients on which they grow diminishes over time.

- 1 - What are endospores?
- 2 - Why is hard to kill a endospore?
- 3 - How much water does a endospore contain?
- 4 - Name the stain we use to identify endospores
- 5 -What survival features does a endospore offer a prokaryote compared to a non-sporing microbe?

### Acid Fast Staining

When is an acid fast staining used?

Know and write out a simple serial dilution starting with a raw sample providing the end diluted product  
It is best to provide a drawing and annotate this drawing.

### Pipetting

Why is the process of over “dialing” the pipett damaging for a pipett? Explain.

In reference to the desk top how should a pipett beheld.

Can a sterile pipett tip be placed onto a pipett applicator with a gloved hand? Explain

The container in which clean sterile tips are found should be left open to the lab air circulation during a lab procedure. Explain what could happen if the box remains open.

## Media

Fill in the chart with the correct information (12 pts)

Bacteria	Hemolytic property.	Described the change in the blood agar media from each of the bacteria colonies grown on this media
<i>Escherichia coli</i>		
<i>Staphylococcus aureus</i>		
<i>Streptococcus pyogenes</i>		
<i>Staphylococcus epidermidis</i>		

b. Greek symbols maybe used to describe Hemolytic properties

Referring to the above conditions is sheep blood agar considered:

(Circle the correct choice) Selective, Differential, or a Selectively/Differential media. Provide a supporting statement

What was the vigor of growth for *E.coli* on Mannitol agar and why?

Vigorous, Moderate, Scant or no growth?

WHY: \_\_\_\_\_

From our work with “**Differential and Selective Media**” lab - explain why is

Erosin Methylene Blue (EMB) agar is considered either one of the other growth media.

## Safety

Why is eating of food or drinking of fluids restricted in a micro-bio lab?

Why must student wear closed toe shoe during lab time while in Microbiology?

Please explain why we disinfect our work areas prior to and after use.

Why should wash your hand to leaving lab?