

# MMBB 255 Lab Final Practical Study Guide

100 pts., 3.5- 4 min./station, ~25 stations, no going back.

## General:

Gram Stain, Aseptic Technique, Streak for Isolation, Microscope Use, Dilutions, Use of micropipettors, Graphing, What indicates growth in broth, Questions in back of each lab and from the quizzes are fair game.

## Genetics:

Terms: auxotroph, frequency of reversion, conjugation, suicide plasmid, transposition element, transposon mutagenesis, transcriptional/translational fusions, ethidium bromide, restriction endonuclease, transformation, competent cells, transfection, transduction, cloning, *lacZ*, X-gal, ligation, alkaline phosphatase, annealing.

The important parts of a plasmid used in cloning. Interpretation and understanding of the conjugation/transposon mutagenesis experiment and the cloning experiment. Blue & White colonies and what they mean for each of the experiments. Why/What solns. for plasmid miniprep and chromosomal DNA purification. Interpret DNA gels/analysis (can you graph and determine sizes from the graph?). Complete understanding/interpretation of the Ames test.

## Pathogens:

Terms: selective vs. differential media, normal flora

Know example organisms for normal flora and pathogens on skin, throat, and fecal. Be able to interpret all tests (and media) used; Interpret and ID organisms with the APIe multitest.

Know these (how they work): Tinsdale, Blood Agar, Mannitol Salt Agar, Baird-Parker Agar, DNase Agar, Rappaport-Vassiliadis Broth, Levine EMB, MacConkey Agar, Hektoen-Enteric Agar, TSI Slants, Decarboxylase Broth, IMViC (Indole, Methyl Red, Voges-Proskauer, Citrate).

## Antibiotics:

Terms: antibiotic, bacteriostatic, bacteriocidal.

Recognize fungi from bacteria apply fungal terms to your observations. Interpret/Analyze Kirby-Bauer and cross-streaks

## Food Safety:

Terms: coliform, common-source, host-to-host.

Interpret a synthetic epidemic. Interpret/Analyze total coliform counts, viable counts, and campy isolation. Know typical food pathogens names and some idea how they cause their disease.

Know these (how work): Violet Red Bile w/MUG, Standard Methods Agar, Campy Agar

## Viruses:

Terms: plaque, virus, lytic, lysogenic, transduction, typical life cycle.

Interpretation of plaques

## Immunology:

Terms: agglutination, precipitation, ABORh(D), Antigens, Antibodies (Antisera), Erythroblastosis Fatalis

Be able to type blood, interpret the results, and understand what antigens and antibodies are in the blood.

Unknowns: Be able to follow the flowcharts if a series of tests are given.