Miramar College
Biology 205 Microbiology
Staphylococcal, Streptococcal & Enteric Unknown Assignment

This assignment will be worth a total of 45 points toward your total course grade and is due according to the date in your *Course Syllabus*. Late assignments will receive a 10% deduction in points for each DAY (not class period) that they are late. This will be the case even if your assignment is late because you have not yet completed all of the necessary inoculations. Assignments should be typed and follow general guidelines for college level writing. **Points will be awarded and/or lost based on proper identification of organisms**. Also, please note that this is a Findings Report and NO RAW DATA or OBSERVATIONS should be included in the discussion of any of your organisms. You should simply state your results (*i.e.,* the nose isolate was found to be positive for mannitol fermentation) and should not state your observations, inoculations or any other methodology (*i.e.,* the MSA turned yellow so the organism was determined to be a mannitol fermenter). The only time the media names should be mentioned is when you have a discrepancy between two or more media that test for the same characteristic (*i.e.,* the results of the EMB and MAC inoculations both indicated the organism was a lactose fermenter, whereas inoculation into a lactose Durham tube contradicted this result). There are three non-science requirements for this paper. **Your grade will be docked if these guidelines are not met. 1)** You must include a cover sheet (you can access a template cover sheet on the course website). On this cover sheet you must include the following information: your full name, your student lab number, the genus & species name of your staphylococcal control organism, the identification of your streptococcal control organism, the genus name of your lactose fermenting enteric organism, the genus name of your non-lactose fermenting enteric organism. **2)** All papers must be stapled together and turned in without any kind of binder. Papers must be double-spaced. **3)** You must enter all relevant data onto the course website. **Please note that the overall presentation of your paper will affect your grade. Please make sure all figures and tables are legible, are oriented properly on the page and are included along with the textual information to which they refer.**

Staphylococci (15 points)

In paragraph form (separate paragraphs for each), answer the following question for each of your isolates (control and nose). What was the genus and species identification of the organisms? Which data support these results, which data do not? Make sure that you explain any findings that deviate from the expected results.

Include two data tables, similar to that found in your lab manual, which indicates the results of the biochemical inoculations for your organisms and the characteristics of the organism you think you have. Shade all of the boxes wherein your results do not match the theoretical results.

Control Organism	Gram Stain	Alpha Toxin	Mannitol Fermentation	Novobiocin Susceptibility	Coagulase
Student # 1	n/a	-	-	S	-
S. saprophyticus	G+ cocci	-	+/-	R	-

Streptococci and/or Enterococci (15 points)

In paragraph form (separate paragraphs for each), answer the following question for each of your isolates (α-hemolytic and/or β-hemolytic): What streptococcal bacteria did you isolate (you may not be able to identify it to the genus and species, if so- explain why)? Which data support this result, which data do not? Make sure that you explain any findings that deviate from the expected results.

Include two data tables, similar to that found in your lab manual, which indicate the results of the biochemical inoculations for your organisms and the characteristics of the 3 strep/enterococcal organisms who most closely match your organism's characteristics. Shade all of the boxes wherein your results do not match the theoretical results.

Organism	Gram reaction	Hemolysis	0.4U Bacitracin Susceptibility	10U Bacitracin Susceptibility	CAMP Reaction	Hippurate Hydrolysis	SXT Susceptibility	Bile Esculin Hydrolysis	Tolerance to 6.5 % NaCl	Optochin susceptibility
Pharynx Isolate	G+ cocci	β	n/a	S	-	-	R	-	-	S
S. pyogenes	G+ cocci	β	S	S	-	-	R	-	-	R
S. pneumoniae	G+ cocci	α		R	-	-	R	-	-	S
S. equi	G+ cocci	β		R	-	-	S	-	-	R

Enterics (15 points)

In paragraph form, discuss the findings for your lactose non-fermenter. What genus did you identify it to be, and what data support this conclusion? Make sure that you explain any findings that deviate from the expected results

In paragraph form, discuss the findings for your lactose fermenter. What genus did you identify it to be, and what data support this conclusion? Make sure that you explain any findings that deviate from the expected results.

Include two data tables, similar to that found in your lab manual, that indicate the results of your biochemical inoculations for your enteric organisms and the characteristics of the organism you think you have. Shade all of the boxes wherein your results do not match the theoretical results. See staphylococcal example above.

Construct separate dichotomous keys (flowcharts), indicating the identification strategy for your lactose non-fermenter and your lactose fermenter. Un-shade the boxes that are untrue for your organism, shade those that are.