|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | Period\_\_\_\_\_\_ Organism Code #\_\_\_\_\_\_\_\_ | |
| **FINAL Report: Microbiology Practical Exam**  **\*\*NOTE: Must be typed. Thorough mechanism descriptions for each test must be listed whether your organism is “positive” or “negative” for the test. The test mechanism is still the same.** | | | | |
| **Negative Stain**: **Approx 5 points.**   * **Morphology & arrangement**: * **Explain the stain mechanism**: | | | | |
| **Gram stain reaction**: **Approx 7 points**   * **Color**: * **Interpretation as gram positive or negative**: * **Morphology and arrangement**: * **Does it match your negative stain results? Explain**. * **Explain the stain mechanism**. * Why is the gram stain an important test? Why is it important to know if an organism is gram positive or negative when a patient has an infection? | | | | |
| **Endospore Stain**: You do NOT need to do an endospore stain, only answer the following question.   * **Based on your gram stain, would it be appropriate to perform an endospore stain on your organism?** **Explain** based on whether your organism is GP/GN and morphology. Approx 1 point.   **Acid-Fast Stain**: You do NOT need to do an acid-fast stain, only answer the following question.   * + **Based on your gram stain, would it be appropriate to perform an acid-fast stain on your organism?** **Explain** based on whether your organism is GP/GN and morphology. Explain. Approx 1 point.   + Why is an acid-fast stain important medically? (ie – What does an acid-fast stain look for?) | | | | |
| **Susceptibility Testing** (24 hours) Approx 10 points.  NOTE: Observe zones for lighter growth within them. Diameters of the zones of complete inhibition are measured. If there is an unusual pattern or there are two zones, comment on that. | | | | |
| **Symbol** | **Antibiotic Name** | **Measurement (mm)** | | **Interpretation (S, I, R)** |
| NB |  |  | |  |
| Cip |  |  | |  |
| P |  |  | |  |
| SXT |  |  | |  |
| **Cultural Characteristics**  **Nutrient Approx 5 points. Include all of the following criteria for both the 24 hour and 48 hour readings**   * **Amount growth**. **NUMBER of colonies, not size. NG, +, ++, +++, ++++**. * **Colony description (form, margin, elevation, size in mm, color)**: * **Relative SIZE of colonies compared to EMB & PEA** * **Mechanism & Purpose of plate (**Is it general growth, selective, differential? What ingredients does the plate contain & what is the purpose of each ingredient? If appropriate, why do certain bacteria grow/not grow, why do certain colors form & why & what they mean, etc.) | | | | |
| **EMB: Approx 5 points. Record observations for 24 & 24 hours.**   * **Amount growth. NUMBER of colonies, not size. NG, +, ++, +++, ++++.** * **Colony description, color:** (NOTE: If both dark purple and pink/light purple colonies are present, write the summary based on the dark purple color. Dark colonies may turn pink after longer incubation.) * **Relative SIZE of colonies compared to Nutrient & PEA:** * **Interpretation (What does the plate tell you about the organism):** * **Mechanism & Purpose of plate (**Is it general growth, selective, differential? What ingredients does the plate contain & is the purpose of each ingredient? If appropriate, why do certain bacteria grow/not grow, why do certain colors form & why & what they mean, etc.) | | | | |
| **PEA agar** 24 hours only. Approx 4 points**.**  **• Amount growth. NUMBER of colonies, not size. NG, +, ++, +++, ++++.**  **• Colony description, color:**  **• Relative SIZE of colonies compared to Nutrient & EMB:**  **• Interpretation (What does the plate tell you about the organism):**   * **Mechanism & Purpose of plate (**Is it general growth, selective, differential - what does it **contain**? If appropriate, why do certain bacteria grow/not grow, why do certain colors form & why & what they mean, etc.) | | | | |

|  |
| --- |
| **Miscellaneous media/tests** For all of the remaining tubes, plates, and tests (as appropriate). For each test include the following:   1. Growth characteristics and observations 2. Test interpretation including appropriate terms 3. Explain the test mechanisms and/or basis for your interpretations. |
| **Catalase test:** Approx 3 points.   * **Observations:** * **Interpretation. What does it tell you about the organism?** Include the equation that catalase catalyzes. Based on your catalase result, what group(s) of bacteria might your organism belong to? Why do bacteria need catalase? Explain. (Refer to Lab #19 if needed) * **Mechanism of the test:** |
| **OF-Glucose tubes:** (24 hours) Approx 6 points   * Color of both tubes * Interpretation * Mechanism of the tubes including all possible reactions and observations. * **Motility tube-** read from OF-G. (24 hours) Include observations and interpretation. Approx 2 points. |
| **Starch hydrolysis**: (24 hours) Approx 3 points   * Reaction color * Interpretation as positive or negative & what that tells you about the organism * Mechanism of the plate. * Include reaction equation and enzyme that catalyzes the reaction. |
| **TSI slant**: (48 hours) Approx 11 points.   * Include colors * Proper interpretation –both in symbols and explanation * Mechanism of the tube including all possible reactions (not just the reaction your organism had) and all corresponding possible interpretations. |
| **ANALYSIS & Correlation of All Plates** Approx 6 points   * Compare **each** selective or differential plate and your susceptibility test to your gram stain. * Explain why each plate does or does not correlate with your gram stain. * Include potential errors that would account for any discrepancy. |

* Additional comments, unusual observations, or conclusions. Approx 4 points.
* Approximately 10 points given simply for plate set up, process, documentation, dates, etc.