Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2017-18 SSCS

SCIENCE OLYMPIAD INVITATIONALS

MICROBE MISSION TEST

**Part I: Fill in the blank- write the correct word/phrase on your answer sheet**

1. Prions are infectious \_\_\_\_\_\_\_\_\_\_ that are responsible for a class of diseases known as the Transmissible Spongiform Encephalopathies.
2. The \_\_\_\_\_\_\_\_\_\_\_ is the most commonly used microscope.
3. Gram-positive bacteria are stained \_\_\_\_\_\_\_\_\_\_ and have a thick wall of \_\_\_\_\_\_\_\_\_\_. Gram-negative bacteria are stained \_\_\_\_\_\_\_\_\_\_.
4. An organism viewed under a microscope appears to be moving to the lower left. The organism is actually moving to the \_\_\_\_\_\_\_\_\_\_.
5. Bacteria may be **\_\_\_\_\_\_\_\_\_\_**, where they utilize photosynthesis to produce food and oxygen. They may also be \_\_\_\_\_\_\_\_\_\_, where they make food using the energy from chemical reactions.
6. The four phases of a microbial growth curve are\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_.
7. \_\_\_\_\_\_\_\_\_\_ microscopes provide 3-D views of the specimen and are highly useful in observing opaque objects.
8. The endosymbiotic theory holds that mitochondria and chloroplasts in eukaryotic cells originated specifically from \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_, respectively.
9. In a cell, the \_\_\_\_\_\_\_\_\_\_ is responsible for the final modification of proteins and packing them into vesicles to be secreted.
10. To calculate the total magnification under a microscope, you should multiply the \_\_\_\_\_\_\_\_\_\_ by the \_\_\_\_\_\_\_\_\_\_\_.
11. The organelles that are present in both eukaryotes and prokaryotes are the \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_.
12. \_\_\_\_\_\_\_\_\_\_ have cell walls composed of chitin, while plants have cell walls composed of \_\_\_\_\_\_\_\_\_\_\_.
13. \_\_\_\_\_\_\_\_\_\_ are viruses that infect bacteria, and \_\_\_\_\_\_\_\_\_\_\_ are viruses that infect other viruses.
14. Bacteria come in three shapes: \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_.
15. The two types of infections that viruses can cause are \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_.
16. This type of microbe is capable of nitrogen fixation: \_\_\_\_\_\_\_\_\_\_.
17. \_\_\_\_\_\_\_\_\_\_ bacteria are found in chains and \_\_\_\_\_\_\_\_\_\_ bacteria found in grape-like clusters. Both are gram-\_\_\_\_\_\_\_\_\_\_ bacteria.
18. \_\_\_\_\_\_\_\_\_\_ is a process that kills microbes in foods and liquids- such as milk- by heating them to specific temperatures.
19. Between viruses, proteins, eukaryotes, and prokaryotes, \_\_\_\_\_\_\_\_\_\_ are the second largest in size.
20. \_\_\_\_\_\_\_\_\_\_\_ are living organisms that can transmit infectious diseases.

**Part II: Diseases- write the corresponding letter on your answer sheet**

 **B= bacterial V= viral F= fungal P=protozoan**

1. Measles ­- \_\_\_\_\_\_\_\_\_
2. Cholera - \_\_\_\_\_\_\_\_\_
3. Norovirus- \_\_\_\_\_\_\_\_\_
4. Anthrax- \_\_\_\_\_\_\_\_\_
5. Athlete’s foot- \_\_\_\_\_\_\_\_\_
6. Giardiasis- \_\_\_\_\_\_\_\_\_
7. Thrush- \_\_\_\_\_\_\_\_\_
8. Polio- \_\_\_\_\_\_\_\_\_
9. Strep throat- \_\_\_\_\_\_\_\_\_
10. Malaria- \_\_\_\_\_\_\_\_\_
11. Histoplasmosis- \_\_\_\_\_\_\_\_\_
12. Yellow Fever- \_\_\_\_\_\_\_\_\_
13. Pertussis- \_\_\_\_\_\_\_\_\_
14. Zika- \_\_\_\_\_\_\_\_\_
15. MRSA- \_\_\_\_\_\_\_\_\_

**Part III: Labeling- write the correct part of the microscope and its function on your answer sheet**