

WRITTEN TEST Review QUESTIONS Lecture test 1

You are held responsible for all material associated with **the study guides** and **questions** found at the end of chapters 1, 2 and 4.

Know the material for the chemistry take home work sheet

Know the short history for great individuals of Micro Science

- 1) How did Pasteur's experiments address the issue the "air" was necessary for spontaneous generation? Explain the setup Pasteur used for this experiment compared with previous experiments of similar nature which reveal different results. (6 pt)
- 2) Discuss the four (4) major postulate Robert Koch stated. And, why are these postulates so important to medical science today? (10 pt)
- 3) Vaccine
 - What is a vaccine
 - What was the first vaccine
 - What was the source
 - Who developed the first vaccine and how he know what to use?
 - What is the value of a vaccine?
- 4) How does a prokaryotic cell differ from a eukaryotic cell? Provide examples or drawing to support your explanation. (5 pt)
- 5) Describe the cell wall of a prokaryotic microbe and how does this cell wall construction influence gram stain (5 pt)
- 6) Describe how a selective permeable membrane relates to diffusion and osmosis. Include tonicity solution status in your explanation (10 pt)
- 7) Draw and label an example of four (4) common shapes of prokaryotic microbes. (8 pts)
 - 7b. Name the five different arrangements for the circular type bacteria (5 pt)
- 8) Describe the **similarity**, **differences** and **functions** of a fimbria, pilli, and flagellum (6pt)
- 9) Draw and name four (4) different positional arrangements of a flagella (6 pt)
- 10) Define "chemotaxis". Describe bacterial cell movement using "chemotaxis" (4 pts)
- 11) What ion results in flagella movement (2pt)?
- 12) Some prokaryotic cells Gram stain positive while some Gram stain negative? List and describe the differences between Gram (+) and Gram (-) microbes (8 pt) ?

- 16) Name and describe the four active transport protein involved in cell membrane activity. (12 pts)
- 17) List and describe two types of passive processes of molecule transport across the plasma membrane (6 pts)
- 18) What survival features does a spore offer a prokaryote compared to a non-sporing microbe? Include in your explanation the physical features of a bacterial spore. What is sporulation or sporogenesis and why is it important to bacterial cells? (6 pt)
- 21) Name the structural shapes that are used to categorize bacterial (9 pts)
- 22) Describe proper foot ware for lab practices? (2 pt's)
- 23) How is the total power of a microscope calculated? (12 pt's)
- B) What is the work distance of a microscope?
 - C) What is the smallest resolving power of a compound light microscope?
 - D) If a microscope has 2 mm field of view at 100 power magnification, what is the field of view at 600 power magnification?
 - E) Why does the illumination (if all light controlling devices remain the same) appear to diminish as the power of magnification increases?