

**Microbiology 2400
Study Guide #12
Winter Semester 2008
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LABORATORY SECTION

Students: Given the extend of laboratory questions asked on study guide #11, there are no questions for this portion of this study guide.

LECTURE SECTION

Chapter 13

1. During my comments on viruses, it was noted that apparently the first viral disease known to be studied was that of ____ and the person who conducted this study was ____.
2. The above-mentioned study begun in 1879 and by the early 1900s, several other conditions that had similar properties were discovered. What diseases were associated with the following individuals?
 - a. Loeffler and Frosch
 - b. W. Reed
 - c. Twort and d'Herelle (note, in this case, what kinds of organisms were affected by the viruses and what special name was given to these infecting agents?)
3. In the discussion of the work of Mayer, it was noted that he produced several "experimental findings" concerning Tobacco Mosaic Disease. What were those findings?
4. What is the origin of the word, virus?
5. By the time of the early 1900s, two views of the nature of the virus had been developed. One of the views held that viruses are really ____ microbes, which have very unusual ____ needs. The other view (Berijerinck) contended that viruses are quite different than other life forms. This view can be summed up in the famous Latin phrase coined by Berijerinck, which was _____. According to this view, viruses are ____.
6. Viruses presented two "problems" to investigators such as Mayer, if they attempted to follow Koch's Postulates. What were those two problems?

7. Your attention was drawn to Wendell Stanley (1935). This individual worked with the ____ (name of disease) and was able to get the causative agent (a virus) to form large aggregations that took the form of _____. His chemical analysis of these revealed that they were constructed of _____. This view of their chemistry soon changed and by 1937, it was realized that viruses are really constructed from two types of chemical substances. What are they?
8. You should be able to draw a very generalized diagram of a nonenveloped virus labeling its coat and core. What is the chemical nature of these structures?
9. You should be able to draw a very generalized diagram on an enveloped virus labeling the core, coat, and envelope.
10. In discussing viral reproduction, one of the models used was that of the T₄ Phage and E. coli. During this presentation, the process of viral reproduction was broken into 8 separate steps. What were those steps? Briefly describe what happens in each.
11. In discussing the entry of a virus into a cell, two methods of penetration were noted. What terms did I use for each method? What is the basic difference between the two methods?
12. It was noted that the assembly of a virus could take one of two forms. What were those forms?
13. There were two general means mentioned for the exit of viruses from a cell. What were those two forms?