MLAB 2361 Clinical II
Serology Objectives

1. Compare active and passive immunity.
2. Given the contents of tube 1 in a serial dilution calculate the titer of each tube.
3. Contrast primary and secondary immune responses.
4. Describe the structure of a single basic antibody molecule.
5. State the structure, where it is found, function, ability to bind complement and ability to cross
6. the placenta for all five immunoglobulins: IgG, IgA, IgM, IgE, and IgD.
7. List factors which influence antigen-antibody reactions.
8. Compare and contrast hapten with antigen.
9. State the numbered order in which the complement components are activated in the classical pathway, alternate pathway and lectin pathways.
10. State the activation unit, the recognition unit and the membrane attack complex.
11. Compare agglutination with hemagglutination.
12. Describe radial immunodiffusion (RID). Include what is mixed in the agar, and what is being quantitated and how.
13. Contrast RID and Ouchterlony gel diffusion.
14. Compare the terms “competitive” and “non-competitive” as they relate to immunoassays.
15. Compare the terms “homogeneous” and “heterogeneous” as the apply to immunoassays.
16. State the pathogenic organism responsible for human syphilis.
17. State the method of transmission of human syphilis.
18. Describe the signs, symptoms and results of serologic tests for each stage of syphilis.
19. Define “reagin” as it relates to syphilis.
20. State the two most commonly used reagin tests used as screening tests for syphilis.
21. Define biologic false positive as it relates to syphilis testing.
22. Compare the VDRL and RPR tests as to the makeup of the antigen.
23. List Treponemal tests which may be performed when a positive reagin test is obtained.
24. State the syphilis screening test to perform on a CSF sample.
25. Describe C-reactive protein including the significance of elevated amounts.
26. State the principle of the CRP latex agglutination test.
27. State the causative agent of primary atypical pneumonia.
28. State the principle of the cold agglutinin test including the specificity of the antibody involved.
29. State the expected result of the cell control in the cold agglutinin titer.
30. Name the chronic inflammatory disease which primarily affects the joints and periarticular tissues.
31. Define rheumatoid factor.
32. State the principle of the latex agglutination test for rheumatoid arthritis.
33. State the causative agent of infectious mononucleosis.
34. Briefly list the symptoms of an infectious mononucleosis.
35. Describe the hematological picture seen on a peripheral smear in infectious mononucleosis including the specific type of white cell which will be most predominant.
36. State the substance which is detected in a positive pregnancy test.
37. State the principle of the ELISA pregnancy test.
38. List diseases or conditions other than pregnancy which may result in a positive pregnancy test.
39. State the causative agent of Lyme’s Disease.
40. Name the vector responsible for transmission of Lyme’s disease.
41. Describe three stages of Lyme’s Disease.
42. State the function and clinical significance of haptoglobin.
43. State the route of transmission for the different types of hepatitis viruses.

44. State the hepatitis virus which requires an infection with Hepatitis B in order for infection to occur.
45. State the significance of presence of IgM versus IgG class hepatitis antibodies in determining the status of the infection.
46. For hepatitis B, list markers used for diagnosis and the significance of each one.
47. State the etiologic agent of acquired immunodeficiency syndrome (AIDS).
48. Describe the stages of an HIV infection including the CD4 count.
49. BRIEFLY describe the following methods: Turbidimetry, Nephelometry, Immunoelectrophoresis, Immunofixation electrophoresis, Radioimmunoassay, Enzyme Immunoassay (ELISA), Fluorescent Immunoassay, Chemiluminescent Immunoassay, Nucleic Acid Probe, and Polymerase Chain Reaction (PCR).