Introduction to Symbolic Logic
Test 1 Study Guide

1. Define the following: logic, logical consistency, argumentum ad hominem, logical truth, logical falsity, logical indeterminacy.
2. Read the following passages. Assess whether it is an argument or not.
    a. If Socrates died, then he either died when he was living, or when he was dead. But he couldn't have died when he was living, for he was not dead when he was living. But he couldn't have died when he was dead, for when he was dead, he had already died. Therefore, Socrates never died. Further, this same reasoning can be applied to anyone. Therefore, no one ever dies.
    b. If there is no reliable way to tell that you are dreaming, you can't be sure you're not dreaming right now. There is no reliable way to tell you're dreaming. Therefore, you can't be sure you're not dreaming right now.
    c. In a dawn without birds, the wizard saw the concentric fire licking the walls. For a moment, he thought of taking refuge in the water, but then he understood that death was coming to crown his old age and absolve him from his labors. He walked toward the sheets of flame. They did not bite his flesh, they caressed him and flooded him without heat or combustion. With relief, with humiliation, with terror, he understood that he also was an illusion, that someone else was dreaming him.
3. Elaborate on at least one way of understanding validity.
4. What is a deductive argument?
5. What is an inductive argument?
6. What is the intuitive difference between induction and deduction?
7. Use the Imagination Method to assess the following deductive arguments for validity:
    a. There are one hundred senators; they're all either Republican or Democrat. Most of them are republicans. Therefore, there are at most 49 senators who aren't republicans.
    b. We know that either Ronnie or Nancy is younger than 90yrs old, and we also know that nancy is 89. Therefore, Ronnie cannot be younger than Nancy.
8. How are VALIDITY and SOUNDNESS related to TRUTH?
9. Define the following: categorical logic, quantifier, class, copula.
10. Draw the Traditional Square of Opposition.
11. What are contradictories? contraries? subcontraries?
12. What is an immediate inference? What is a sorites?

13. Using the Traditional Square of Opposition, assess the following immediate inferences for validity:
    a. No poets are musicians. So some poets are not musicians.
    b. All clowns are also gymnasts. So some gymnasts are also poets.
    c. All democrats are corrupt. So some democrats are not corrupt.
14. Define the following: existential viewpoint, hypothetical viewpoint.
15. Assess the following categorical syllogisms using Venn diagrams:
    a. No philosophers are docile, and no docile things oscillate. Therefore, some oscillators aren't philosophers.
    b. Some soccer players are not piano players. But all piano players are handsome. So some handsome people are not soccer players.
    c. Some things with dirt on them do not taste good, because some kidneys do not taste good and all kidneys have dirt on them.
    d. All clowns are also gymnasts. So some gymnasts are also clowns.
16. Assess the following sorites for validity:
    a. All A are B. All B are C. All C are D. So, All D are A.