Exam 2 Study Guide

Case Study: Cold Fusion

What is regular fusion?
What is cold fusion, and how does it differ from regular fusion?
What kind of experiment did Pons and Fleischman do to “discover” cold fusion?
What went wrong with their experiment?
What went wrong with the publicity surrounding the experiment?

Case Study: UFOs

What are the three questions that need to be addressed when thinking about whether or not UFOs are real?
What is the story of the “Roswell incident”? How does the myth compare to reality?
If UFOs are really alien spacecraft, what sorts of physical evidence would you expect to find?
What does the Drake Equation tell us about UFOs? What factors in the Drake Equation are the best known, and which are the shakiest?
What are the prospects for aliens (should they even exist) actually traveling to the Earth to visit us?
Varieties of Argument

Definition of an argument (premise + conclusion).
Identify the parts of an argument.
Sequential arguments that use the conclusion of one argument as the premise for another.
Difference between arguments and explanations.
Definition of deductive and inductive arguments.
Unstated premises.
Diagramming arguments.
Deductive Arguments

Categorical claims – what are they, and what are the standard forms?
Subject and predicate terms.
Universal and particular claims.
Affirmative and negative claims.
Using Venn diagrams to illustrate claims.
Translating claims into standard form.
Categorical syllogisms – what are they, and what components do they have? Major, minor and middle terms.
Using Venn diagrams to test the validity of categorical syllogisms.
Categorical syllogisms with unstated premises.
The rules method for evaluating the validity of categorical syllogisms.