Final Examination
Philosophy 112
Winter 2002

Please work all the problems in the space provided. All problems are weighted equally. You may use only the rule set noted on the individual problems. Please be sure that you do everything that is asked for in each problem.

Name________________________________

1. Symbolize the following argument, revealing as much structure as possible and providing a symbolization key. Show that it is valid in *PD* (which requires a derivation).

A person is humble if and only if he or she doesn't admire himself or herself. It follows that nobody who admires all humble people is humble.

Name________________________________

2. Symbolize the following argument, revealing as much structure as possible and providing a symbolization key. Using any *semantical* technique for *PL* (not a derivation), determine whether it is quantificationally valid or invalid and defend your answer.

Nothing is larger than itself. So, nothing is larger than everything.

Name________________________________

3. Using the definitions from the formal semantics, show that the following two sentences of *PL* are quantificationally equivalent.

$(\forall x)Gx$
$\sim(\exists x)\sim Gx$

Name________________________________

4. Show that the following sentence is quantificationally indeterminate by constructing an interpretation on which it is true and one on which it is false. State why it is true on the interpretation on which it is true, and why it is false on the interpretation on which it is false.

$(\forall x)(\forall y)(\exists z)(x=z \ \& \ y=z)$

Name________________________________

5. Show that the following set of sentences is quantificationally consistent by constructing an appropriate expanded truth-table.

$\{(\forall x)(Fax \vee (\exists y)Fya), \sim Faa\}$

Name________________________________

6. Using the formal semantics for *PL*, determine the truth-value of the following sentence on the interpretation given. Show in detail how the truth-value is determined.

$(\forall x)(Ox \supset (\exists y)Lyx)$

UD: $\{1,2\}$
O: $\{<\mathbf{u}>: \mathbf{u} \text{ is odd}\}$
L: $\{<\mathbf{u}_1,\mathbf{u}_2>: \mathbf{u}_1 \text{ is less than } \mathbf{u}_2\}$