**PH133 Logic : Extra Seminars**

*Answer these questions on paper, do not use Fitch &c.*

*It is not required that you can answer the questions immediately. Think about them carefully about them over several hours if you need to.*

**1. Should I attend the extra seminar on proofs?**

(a) Can you give a counterexample to the following argument?

|  |  |
| --- | --- |
|  | A∨B  B |
|  | ¬A |

(b) Can you prove the following argument?

|  |  |
| --- | --- |
|  | ¬A→A |
|  | A |

If you answered no to (a) or (b), you should attend the extra seminar on proofs.

**2. Should I attend the extra seminar on translations?**

(a) Can you translate ¬∃x BetterSinger(x,a) into English using the following interpretation?

a : Mia

BetterSinger(x,y) : x is a better singer than y

(b) Can you translate ‘Some members of Hezbollah are members of the Talliban’ into FOL (Logiya) using the following interpretation?

Taliban(x) : x is a member of the Taliban

Hezbollah(x) : x is a member of Hezbollah

If you answered no to (a) or (b), you should attend the extra seminar on translations.

**3. Should I attend the extra session on truth tables?**

(a) Do you know the truth table for A∧B and the truth table for A∨B?

(b) Can you construct the truth table for A∧(¬B∨C)?

If you answered yes to (a) and no to (b), you should attend the extra seminar on truth tables.