**LAB SESSIONS – PHIL 1 – WEEK 6**

**EXERCISES**

1. **Answer the Following open question to the best of your possibility. Limit ½ page A4**
2. Summarise the main things you remember about Stoic philosophy
3. Describe the similarities between Stoic logic and propositional logic
4. Who was Leibniz?
5. Describe the main logical operators used in propositional logic, their function and how they are graphically represented
6. Describe the difference between a necessary and sufficient condition. Use an example (not taken from the slides) to illustrate this distinction
7. Describe what is an antecedent and a consequent in propositions. Give 5 examples
8. **Symbolize the following statements and explain/justify the use of the logical operator you chose**

Iran raises the price of oil but Libya does not raise the price of oil

Iran and Libya both do not raise the price of oil.

It is not the case that either Egypt’s food shortage worsens or Jordan requests more U.S. aid

Iran won’t raise the price of oil unless Libya does so.

Either Iran raises the price of oil and Egypt’s food shortage worsens, or it is not the case both that Jordan requests more U.S. aid and that Saudi Arabia buys five hundred more warplanes

Libya raises the price of oil and Egypt’s food shortage worsens; and, Saudi Arabia buys five hundred more warplanes and Jordan requests more U.S. aid.

1. **Symbolize the following statements and explain/justify the use of the logical operator you chose (continue practising, these examples are just more difficult)**

If Argentina mobilizes, then if Brazil protests to the UN, then Chile will

call for a meeting of all the Latin American states

If either Argentina mobilizes or Brazil protests to the UN, then Chile will call for a meeting of all the Latin American states

It is not the case that if Argentina mobilizes, then both Brazil will protest to the UN, and Chile will call for a meeting of all the Latin American states.

Brazil will protest to the UN only if either Argentina mobilizes or Chile calls for a meeting of all the Latin American states

Unless Chile calls for a meeting of all the Latin American states, Brazil will protest to the UN

If neither Chile nor the Dominican Republic calls for a meeting of all the Latin American states, then Brazil will not protest to the UN unless Argentina mobilizes

1. **Write down the logical forms for the following syllogisms: i.modus ponens, ii. modus tollens, iii. affirming the consequent, iv. denying the antecedent, v. disjunctive syllogism \*both valid and invalid form\*.**
2. **Then give at least 2 examples for each of these logical forms**