

PES University, Bangalore

Department of Computer Science and Engineering

Automata Formal Languages & Logic

QB for Propositional Logic- Knowledge Base AND Simple Inference Procedure

Problem:

- 1. Define different type of sentences in Logic.**
- 2. Define** different logical connectives and their meaning.
- 3. What** do you understand by Tautology Or logically equivalent.
- 4. Keeping** Wumpus world example in mind, Write the following statements in propositional logic.
 - There is no pit in $[1,1]$
 - The square $B_{1,1}$ is breezy iff there is pit in its neighboring squares $P_{1,2}$ or $P_{2,1}$.
- 5. Convert the following verbal argument to the propositional form: -**
 - Russia was a superior power, and either France was not strong or Napoleon made an error.
 - Napoleon did not make an error, but if the army did not fail, then France was strong.
 - The army failed and Russia was a superior power.
- 6. Use a truth table to analyze the arguments.**
 - a. If there is a cream, then I will drink coffee.
 - b. If there is a donut, then I will drink coffee
 - c. There is no cream and there is a donut

Infer the conclusion

I drink coffee.