

St John Baptist De La Salle Catholic School, Addis Ababa

Homework 5

4th Quarter

Aaron GK

June 13, 2023

Notes, and use of other aids is allowed. Read all directions carefully and write your answers in the space provided. To receive full credit, you must show all of your work.

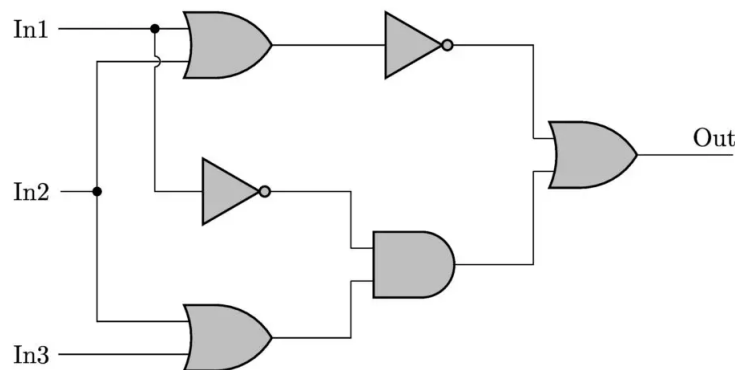
Cheating or indications of cheating and similar answers will be punished accordingly.

Information

- The homework is due on **Friday, June 16th**.
- You should Work on it **in groups** and consult me if you have any questions. As I have reiterated multiple times, cheating between groups will have a serious consequence.
- For purposes of neatness and simplicity of grading, you should do the homework on an **A-4 paper**.

Questions on Electronics & Logic Gates

1. Plot a signal for a CRO measuring a signal of frequency 250Hz and maximum voltage 10V if the gain control is 5V/cm and time base is 4ms/cm.
2. For the logic gate shown below, show the possible outcomes for all the possible inputs.



Advanced Problems

3. Explain the semiconductor band theory.
4. How does a transistor work? Explain in detail how amplification is done.