ASSIGNMENT 3

1. Write down the output for the following circuit diagram:

   ![Circuit Diagram](image)

   - ![Output Calculation](image)

2. Explain the principles of operation in the circuit shown in the diagram above.

   - Explanation:
     - ![Principles of Operation](image)

3. Describe how the circuit can be used in real-world applications.

   - Application:
     - ![Real-World Application](image)

4. Analyze the efficiency and limitations of the circuit.

   - Efficiency and Limitations:
     - ![Efficiency and Limitations](image)

5. Calculate the power consumption of the circuit.

   - Power Consumption:
     - ![Power Calculation](image)

6. Discuss the safety considerations for working with the circuit.

   - Safety Considerations:
     - ![Safety Guidelines](image)

7. Design a similar circuit using different components.

   - New Circuit Design:
     - ![Circuit Design](image)

8. Write a brief report on the importance of understanding circuit theory.

   - Importance of Circuit Theory:
     - ![Report](image)