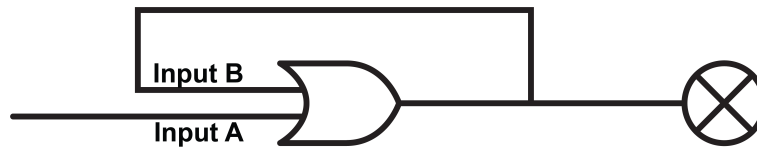


Name:
Teacher:
Class:
Date:

Logic And Electrical Engineering - Practice Problems Set 1:

1. The diagram below shows part of a control circuit. At first both **input A** and **input B** are **low (0)**, and the lamp is **OFF**.



- a) If **input A** becomes **high (1)**, the lamp will turn **ON**. Explain why this is.

- b) If **input A** returns to a **low (0)** state after being in a **high (1)** state, the lamp will remain **ON**. Explain why this happens.

- c) What is a feedback loop?

- d) What effect does a negative feedback loop have on this control system?

2. The names of four electrical devices are given on the left. What each device does is given on the right. Draw a line to join each device with what it does.

LED

Measures current, voltage or resistance

Speaker

Emits light when a current flows through it

Multimeter

Produces an output sound

Microphone

Transfers sound energy to electrical energy

3. The following is a list of electrical components that may be used in electrical circuits:

capacitor diode microphone multimeter transistor

- a) Allows current to flow in one direction only.

- b) Can store a small charge.

- c) Can act as an electronic switch.

- d) Can be used to measure voltage.

- e) Can act as a sound sensor.

4. The diagram following shows an input signal and an output signal. Which of the components listed in question 3 would result in this type of signal transformation?

