



**DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY**

**END OF TERM EXAMINATION**

**DEPARTMENT:** COMPUTING AND INFORMATION TECHNOLOGY  
**COURSE CODE:** DICT0122  
**COURSE TITLE:** COMPUTER ELECTRONICS  
**CAMPUS:** ROYSAMBU  
**EXAM DATE:** APRIL 2023  
**TIME:** 2PM – 5PM

**SECTION A (COMPULSORY)**

**Question ONE**

a) Giving examples of electromechanical devices which provide an amplifying action, describe how an amplifier works. **[4 Marks]**

b) Passive components are the framework on which circuits are built. State two Characteristics that define passive components in electrical components?

**[2**

**Marks]**

c) Using a diagram, explain any basic Logic Gate circuit component. **[2 Marks]**

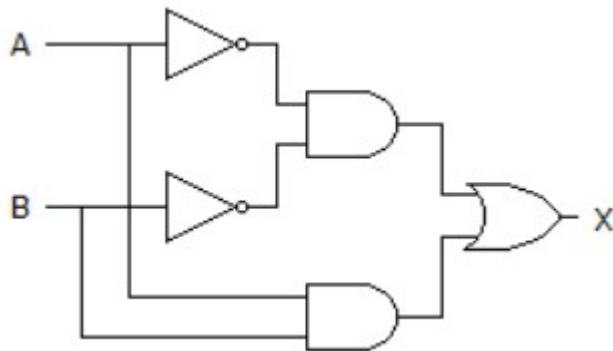
d) A computer is an electronic device that manipulates information, or data with the ability to store, retrieve, and process data. State two reasons a computer is referred to as an electronic device. **[2 Marks]**

## SECTION B

(Answer any THREE (3) Questions in this section)

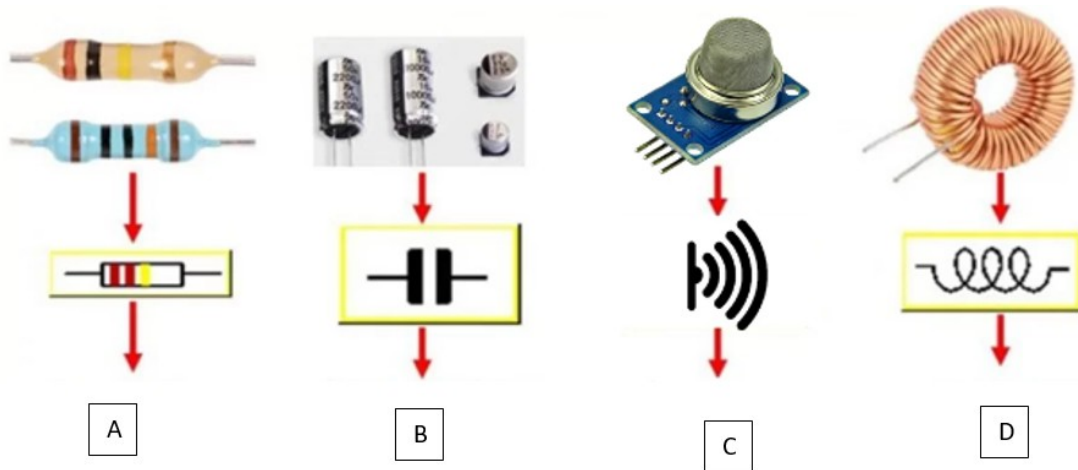
### Question TWO

- a) Mary found that one of the electronic components in her computer has malfunctioned. Giving examples, outline two steps that Mary can carry out in troubleshooting electric circuit problem. **[4 Marks]**
- b) Explain the type of logic circuit represented by the figure shown **[6 Marks]**



### Question THREE

- a) Explain the functions of electronic components in the figure below:- **[8 Marks]**



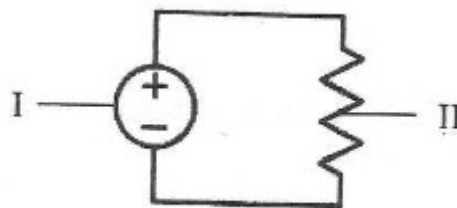
Atoms are the fundamental building blocks of all molecules. Identify any two subatomic particles contained in an atom. **[2 Marks]**

#### Question FOUR

- a) An uninterrupted power source is vital for a mission-critical environment. Discuss three main objectives that an organization can achieve by installing uninterruptible Power Supply. **[6 Marks]**
- b) A computer company intended to use the extrinsic semiconductor material to develop electronic components. Highlight four possible areas of applications that the material can be used. **[4 marks]**

#### Question FIVE

- a) The schematic diagram below shows symbols used for voltage sources. Explain the components labelled I and II. **(4 Marks)**



- b) Electric power is delivered to homes by alternating current (ac) through high-voltage transmission lines. State two techniques an electrical expert can use to reduce radiation loss in Alternating Current (AC) circuits. **[2 Marks]**

- c) A metal conducts heat through electrons. Describe two properties that enable conduction of heat by electrons **[4 Marks]**

**Question SIX**

- a) Power supplies have essential functions found in all models with additional operations added depending on the device type. Describe how a power supply operates indicating its five main components and their functions. **[10 Marks]**