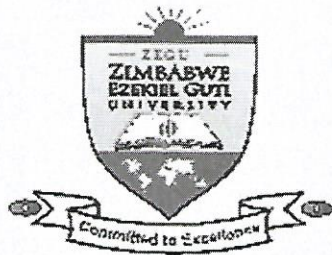


ZIMBABWE EZEKIEL GUTI UNIVERSITY



**FACULTY OF COMMERCE
BSC (HONS) DIGITAL TECHNOLOGY**

MODULE: CDT114 ELECTRONICS 1

4 DECEMBER 2018

EXAM DURATION: 2 HOURS

Instructions

1. Answer all questions; the mark allocation for each question is shown in square brackets.
2. Number your answers accordingly.
3. The total marks for the examination is 100.

Question 1

Explain the difference between passive and active components [8 marks]

Question 2

Explain the following terms and how they are measured:

- i) Current [3 marks]
- ii) Resistance [3 marks]
- iii) Voltage [3 marks]
- iv) Electrical power [3 marks]

Question 3

Explain five application areas of Electronics [10 marks]

Question 4

- v) Calculate the voltage that will be required to be applied to a $60\ \Omega$ resistor for 20 amps to flow through the circuit [4 marks]
- vi) A circuit is made up of 75 amps and 30 volts, calculate the watts that will be transferred [4 marks]

Question 5

Explain the difference between P-type and N-type Semiconductors [6 marks]

Question 6

Explain how a diode works and in your explanation, explain how a forward –biased and reverse-biased occur [8 marks]

Question 7

What is a resistor and what is its purpose? [6 marks]

Question 8

What is the difference between WIFI and LIFI? [10 marks]

Question 9

Explain using a diagram how electricity is generated from solar cells [10 marks]

Question 10

Explain how the Visible light communication (VLC) works **[8 marks]**

Question 11

List four application areas of a diode **[8 marks]**

Question 12

Explain how a Photodiode works **[6 marks]**

.....End of Paper.....