AFRICA NAZARENE

UNIVERSITY

CENTRE: NAIROBI
DEPARTMENT: COMPUTER SCIENCE
UNIT TITLE: HARDWARE AND SOFTWARE PRACTICUM UNIT
CODE: CSC 110
TRIMESTER: 1ST TRIMESTER 2015/2016
LECTURER: J. MAKASA
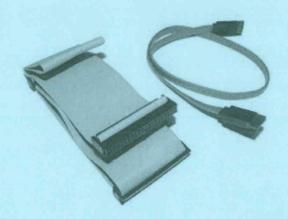**DATE:** 4TH DECEMBER 2015
TIME: 5.30PM – 8.30PM

Instructions:

1. Answer **ALL** Questions

2. Write all your answers in the answer booklet provided.

3. **DO NOT** write on the question paper.

4. Time allowed: Three hours.

Question One

a) Given that ohms law is expressed as V=IR, express current in terms of power (P) and resistance (R) **(2 marks)**

b) Identify the items below and state how they are used highlighting on their characteristics. **(4 marks)**

c) Given that ohms law is expressed as V=IR, write down the expression for current in terms of power (P) and resistance (R). **(3 marks)**

d) A wire connected to a power supply carries 5V. If the power supply provides 60W, find the current passing through the wire. **(2 marks)**

e) Name at least two well-known CPU manufacturers. **(1 mark)**

f) Describe the following technologies used in processors and highlight why they are necessary. **(4 marks)**

    i) Overclocking
    ii) CPU throttling

g) Explain the meaning of the following terms as used in relation to monitors. **(2 marks)**
    i) Pixel
    ii) Dot pitch

h) Explain the meaning of solid state drives. **(2 marks)**

Question Two

a) Write down the steps involved in installing a motherboard. **(6 marks)**

b) Outline four ways in which temperature of the CPU can be controlled in a computer system. **(4 marks)**

c) Differentiate between x86 and x64 processors. **(4 marks)**

d) Explain what disk cloning involves. **(3 marks)**

e) Write three disadvantages of a peer-to-peer network. **(3 marks)**

Question Three

a) With help of a well labeled diagram show the pin-out arrangement for a cross-over cable including colors using either EIA/TIA 568 A or B standard. State one example of devices it connects. **(5 marks)**

b) Explain the importance of drive mapping and describe how it is achieved in window7. **(3 marks)**

c) Differentiate between CRUs and FRUs. **(2 marks)**

d) Describe EMI (electromagnetic interference) and radio frequency interference (RFI) and state their sources. **(4 marks)**

e) Explain how you can portray professional behavior while dealing with an angry customer. **(4 marks)**

f) Discuss Explain why it is not advisable to use magnetic tools to retrieve metal components from a computer system. **(2 marks)**

Question Four

a) What is print spooling? **(1 mark)**

b) Explain how workers can deal with stress due work related issues. **(4 marks)**

c) With help of a diagram describe the printing process of a laser printer. **(6 marks)**

d) Explain how you would setup a small computer network of ten computers in a new CCNA lab at the town Campus. **(5 marks)**

e) Describe at least four applications that aid technicians to gather data from a computer system (PC). **(4 marks)**

Question Five

a) Enumerate characteristics of laptop CPU. **(3 marks)**

b) Outline some of the field replaceable parts of a mobile and further state why it not advisable for a customer to replace other parts. **(3 marks)**

c) Differentiate between capacitive and resistive touchscreens found in mobile devices. **(4 marks)**

d) Explain how you would enhance security on a mobile device that is using Wi-Fi communications. **(3 marks)**

e) Define the following terms as applied in networking. **(3 marks)**
   i) Bandwidth
   ii) Latency
   iii) Subnet mask

f) Explain how you would access the advanced configuration and power interface of a laptop and enable it. **(4 marks)**