

KENYA METHODIST UNIVERSITY
1st TRIMESTER EXAMINATION
April 2008

FACULTY : SCIENCE & SOCIAL STUDIES
DEPARTMENT : COMPUTER & INFORMATION SCIENCE
COURSE CODE : CISY 303/DCIS 203
COURSE TITLE : COMPUTER HARDWARE & MAINTENANCE
TIME : 2 HRS

Instructions: Attempt Question 1 in **Section A** and any other two questions in **Section B**.

SECTION A

Question 1(20 Mks)

a) Study the following computer symptoms and prescribe a remedy. (20 Mks)

- (i) There is no power light and you cannot hear any cooling fan
- (ii) There is no power light but you hear the cooling fan running
- (iii) The power light is on, but there is no apparent system activity
- (iv) The power light is on, but you hear two or more beeps
- (v) The power light is on, but the system hangs during initialization
- (vi) You see a message indicating a CMOS Setup problem
- (vii) You see no drive light activity
- (viii) The drive light remains on continuously
- (ix) You see normal system activity, but there is no video
- (x) The system starts but crashes/reboots intermittently

SECTION B

Question 2 (20 Mks)

- a)** List the tasks of the BIOS **(3 Mks)**
- b)** Describe the POST process **(4Mks)**
- c)** Describe the motherboard form factors. Consequently list the components. **(7 Mks)**
- d)** Describe 3 ways in which to maintain disk hygiene **(6 Mks)**

Question 3 (20 Mks)

- a)** Explain the steps taken by a program when it encounters a virus. Describe the popular anti – virus programs you know of. **(8 Mks)**
- b)** Differentiate between a surge suppressor and a UPS. **(2 Mks)**
- c)** Why is the BIOS referred to as firmware? While the BIOS seems permanent it can always be updated. Give the three main reasons for updating. **(5 Mks)**
- d)** With regard to selecting the most appropriate C.P.U define the following: **(5 Mks)**
 - (i) Front Side Bus (FSB)
 - (ii) Cache
 - (iii) Sockets/slots
 - (iv) Fans & Heat sinks

Question 4 (20 Mks)

- a) CPU's are generally trouble-free. Describe the most likely problem to occur and recommend the most probable solution. **(5 Mks)**
- b) Define PORTS and describe the following **(5 Mks)**
- (i) Serial
 - (ii) Parallel
 - (iii) USB
 - (iv) VGA
 - (v) DVI
- c) Explain the items you need to consider when selecting memory for a computer **(5Mks)**
- d) Describe the common memory types in particular (SDRAM, DDR SDRAM, Rambus, EDO RAM, and burst-EDO RAM). **(5Mks)**

Question 5 (20 Mks)

- a) In the context of compatibility, give the factors that must be considered to ensure a hard-drive will work in a given system. **(5 Mks)**
- b) Give the factors to consider when attempting to purchase the highest quality hard drive for the money. **(5 Mks)**
- c) The OS has to have a method of storing and organizing files on a drive. There are different file systems used by Windows and DOS to serve that purpose. Describe the three methods. **(5 Mks)**
- d) Define the following: **(5Mks)**
- (i) Active partition:
 - (ii) Basic disk:
 - (iii) Dynamic disk:
 - (iv) Extended partition:
 - (v) Master boot record (MBR):