

Mt Kenya



University

UNIVERSITY EXAMINATION 2010
SCHOOL OF APPLIED AND SOCIAL SCIENCES
DEPARTMENT OF INFORMATION TECHNOLOGY
SEMSTER I EXAMINATION FOR BACHELOR OF BUSINESS
INFORMATION TECHNOLOGY
COURSE CODE: BIT 1105
COURSE TITLE: COMPUTER ARCHITECTURE

DATE: APRIL 2010

TIME: 2HRS

INSTRUCTIONS

Answer Question One And Any Other Two

Question One

(a). i) Define the following computer terms

- (a). Computer (2mks)
- (b). Input (2mks)
- (c). Output (2mks)
- (d). Processing (2mks)
- (e). VDU (2mks)

(ii). Differentiate between RAM and ROM (2mks)

b. (i). Computers have evolved through many generations over the years. State and explain the five generations the computers have evolved through.

(6mks)

(ii). (a). What is a computer bus? State three types of computer buses

(3mks)

(b) State and explain any FOUR motherboard form factors while stating their dimensional differences.

(4mks)

(c). State the four different ways they are used to characterize motherboards.

(2mks)

(iii). What is an application software? State and explain two types of application software giving examples in each case.

(3mks)

Question Two

a. Describe four ways of classifying computer memory

(4mks)

- b. Using an illustrative diagram, describe the characteristics and components of a computer architecture based on the Von Neumann Model. (8mks)
- c. Define the following disk performance terms.
 - i. Access time
 - ii. Seek time
 - iii. Rotational relay
 - iv. Transfer time
 - v. Latency (5mks)
- d. Explain how RAID hard disk technology is used for performance and reliability. (3mks)

Question Three

- (a). Define of the following computer terms while giving appropriate examples.
 - (i). Chipset (2mks)
 - (ii). CMOS battery (2mks)
 - (iii). BIOS (2mks)
 - (iv). PCI (2mks)
 - (v). AGP (2mks)
- (b). Perform the following binary calculations/ arithmetic operations.
 - (i). $01110 - 10111$ (2mks)
 - (ii). $10111 + 01101$ (2mks)
 - (iii). $10111 - 01110$ (2mks)
 - (iv). $0110 * 1011$ (2mks)
 - (|v) Convert 65 to binary (2mks)
- (c). Indicate which kind of upgrades do the following fall under?
 - (i). 1.73 GHz to 2.56 GHz
 - (ii). 256MB to 512MB
 - (iii). 40GB to 120GB (3mks)
- (d). As you know, computers rely on accurate data input in order to provide reliable outputs. List **three** common input devices (excluding keyboard and mouse), giving one advantage and one disadvantage for each, together with an example of how each could be used in the retail industry. (7mks)

Question Four

- (a). Define computer data storage. (2mks)
- (b). Storage technologies at all levels of the storage hierarchy can be differentiated by evaluating certain core characteristics as well as measuring characteristics specific to a particular implementation. State and explain any five characteristics of storage. (10mks)

(c). There are THREE main types of computer storage devices, state and explain these three types. (8mks)

Question Five

(a). Discuss the THREE main types of computers giving their features, advantages and disadvantages. (10mks)

(b). Draw the internal structure of a computer, showing the six major parts and giving at least two functions of each part. (10mks)