



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2010/2011

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (CROP IMPROVEMENT AND PROTECTION) AND BACHEOR OF SCIENCE (AGRICULTURE)

KST 308: COMPUTER SCIENCE

DATE: MONDAY, 4TH APRIL 2011

TIME: 2.00 P.M – 4.00 P.M

INSTRUCTIONS

This Examination is divided into Sections A, and B. Section A is compulsory. Answer any TWO questions in section B

SECTION A(Compulsory)

Question One

- (a) What are the functions of input devices (2 marks)
- (b) What are the functions of output devices (2 marks)
- (c) Briefly define the following terms as used in fundamentals of computer systems (use a sketch to illustrate where necessary)
 - i. Microcomputers (1 marks)
 - ii. Application software (1 marks)
 - iii. Operating Systems (1 marks)
 - iv. Information System (1 marks)
 - v. Information technology (1 marks)
 - vi. Computer Security (1 marks)
- (d) Compare the Printer and the Screen as output devices (4 marks)
- (e) Your company needs to acquire a printer. List THREE considerations you will make to decide on what printer to buy. (4 marks)
- (f) Computers can be classified according to :
 - Size
 - Category/Generation
 - Power
 - i) Discuss each of the categorization by size giving a reason why each might be needed (2 marks)
 - ii) Discuss each of the categorization by Category/ Generation mentioning at least two unique characteristics of computers in a specific generation (2 marks)

- (g) At the lowest level data operates in bits. Which are basically electrical signals. Use the knowledge you learnt about data and its transmission to convert the following
- i. 2130_{10} to binary
 - ii. 1101_2 to Decimal (2 marks)
- (h) List Three objectives of Computer Security (1 mark)
- (i) Compare the hard disk and the flash disk as computer storage devices (1 marks)
- (j) Define a client-server network and contrast it with a peer-to-peer network. (2 marks)
- (k) Why is it important to:
- i. defragment your disk (1 marks)
 - ii. Have Anti-virus in your computer (1 marks)

SECTION B (Attempt Any Two)

QUESTION TWO

The following computer software are used in organizations:

- Off-the shelf packages;
 - Customized software eg Enterprise Resource Planning (ERP) software;
 - Free ware
- a) Briefly discuss benefits and pitfalls of going for each of the software's above. (6 marks)
- b) What are some FOUR(4) benefits of going for customized software. (4 marks)
- c) Think of an agricultural institution (or agency), discuss what will comprise a computerized system form such an institution.
- i) Discuss FOUR(4) the criteria you will use in selecting the software for the organization (4 marks)
 - ii) List and discuss four (4) probable contents of the Request-to tender document sent to potential suppliers (4 marks)
 - iii) List two network components that the organization will need for this system to be functional (2 marks)
- [20 marks]

QUESTION THREE

- a) Discuss the Four(4) features of each of the following computer software:

- i. Word Processor;
- ii. Spreadsheets;
- iii. Databases

(12 marks)

- b) Give the characteristics and examples of:
- Transaction Processing Systems (TPS)
 - Management Information systems (MIS)
 - Decision Support System (DSS)
 - Office Automation Systems

(8 marks)

[20 marks]

QUESTION FOUR

- a) Lack of bandwidth is a constant problem with many data communication networks! What is meant by the term **bandwidth** and why is it important?
(4 marks)
- b) Explain the difference between analogue and digital signals giving an example for each.
(4 marks)
- c) Why is a modem important when you want to connect to the internet using your laptop
(2marks)
- d) Discuss THREE (3) benefits that an agricultural institution might benefit from adopting Internet Based Technologies in the organization (6 marks)
- e) Compare the following networking media:
 - i. Wireless network and guided network;
 - ii. Fibre Optic Cable and Twisted Pair Cable (4 marks)[20 marks]

QUESTION FIVE

- a) Auxiliary or backing storage devices are normally described as Mass Storage devices. What is **Mass Storage**? Give two examples of such devices. (4marks)
- b) Explain the terms “**Data Transfer**”; “**Access Time**” and “**Direct Access**” with regard to Computer disks.
(6 marks)
- c)
- d) CD-R and CD-RW disks have become popular and versatile and almost as cheap as a floppy disk. Discuss some reasons why this is so? (6marks)
- e) What are the main differences between Hard disks and Floppy disks?(4 marks)
[20 marks]