

CHUKA



UNIVERSITY

COLLEGE

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF COMMERCE**

BCOM 172: FUNDAMENTALS OF COMPUTERS

STREAMS: BCOM

TIME: 2 HOURS

DAY/DATE: TUESDAY 7/8/2012

2.30 P.M. - 4.30 P.M.

INSTRUCTIONS:

Answer Question ONE and any other TWO Questions.
Do not write on the question paper.

Question One (30 Marks)

- (a) Subtract the binary equivalent of 223_8 from the binary equivalent of 306_8 . Convert the result to base 10. Show your work clearly. [6 marks]
- (b) Define the following terms as used in information technology? [6 marks]
- (i) Core
 - (ii) WI-FI technology
 - (iii) Decision support system
- (c) What are the functions of the following components of a computer system? [6 marks]
- (i) Mother board
 - (ii) Power supply
 - (iii) UPS
- (d) Byte Academy, an upcoming school which has acquired a database management system has employed you as a database developer. You are required to design a database that will help them management students' records. Suggest three tables, three fields for each table and their respective data types that would form part of the database. [6 marks]

- (e) What do you understand by the following [6 marks]
- (i) Peer to peer network
 - (ii) EEPROM
 - (iii) Supercomputers

Question Two (20 Marks)

- (a) With the aid of a diagram explain the design and functioning of the central processing unit. [7 marks]
- (b) County Silicon Systems is hardware firm that specializes in manufacture of microprocessors. What aspects should they pay attention to in an effort to produce processors with a high machine instruction cycle rating? [8 marks]
- (c) Giving suitable examples differentiate between relative cell references and absolute cell references. [5 marks]

Question Three (20 Marks)

- (a) You have been employed as a computer applications specialist at Avenue College. Giving an example under each, list six categories of application software that you would advise the college to procure in an effort to achieve their computerization goals. [6 marks]
- (b) Without an operating system, the computer would much be like the car without the steering wheel. Justify this statement. [8 marks]
- (c) Compare and contrast electronic word processors and manual word processors. [6 marks]

Question Four (20 Marks)

- (a) You have recently been employed as a network administrator in local government training institute. Explain how the installation of a LAN will affect operations in the institution. [8 marks]
- (b) Perform the following computer arithmetic operations. [8 marks]
- (i) Add 01111_2 to 100110_2
 - (ii) Multiply 11011_2 by 1101_2
 - (iii) Divide 11101011_2 by 1011_2
 - (iv) Convert $B5A1_{16}$ to Decimal form

- (c) Various peripheral devices are available for use with the PC. List eight such input devices. [4 marks]

Question Five (20 Marks)

- (a) Computing technologies have continued to evolve and become an integral part of other disciplines. Discuss the impact of Information technology in the business world in modern times. [8 marks]
- (b) The printer is an output peripheral device which is used to produce hard copy of information stored in the computer. Briefly describe the two broad categories of printers. Give examples under each. [5 marks]
- (c) Using suitable scenarios differentiate between Extranet and intranet. [5 marks]
- (d) List down the types of primary memory available on the motherboard. [2 marks]
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