

**KABARAK**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**2010/2011 ACADEMIC YEAR**

**FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE**

**COURSE CODE: COMP 110**

**COURSE TITLE: INTRODUCTION TO COMPUTER SCIENCE**

**STREAM: SESSION I & II**

**DAY: TUESDAY**

**TIME: 9.00 – 11.00 A.M.**

**DATE: 12/04/2011**

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**INSTRUCTIONS:**

- 1. Section A is compulsory and has 30 marks.**
- 2. Attempt any TWO questions from Section B. Each question has 20 marks.**

**PLEASE TURN OVER**

## SECTION A

### QUESTION 1 (30 MARKS)

- a) With the help of a diagram; explain the basic elements of a computer system. (5 marks)
- b) Convert each of the decimal numbers below to BCD.  
i)  $346_{10}$       ii)  $54.6_{10}$  (5 marks)
- c) Explain the different types of computers classified by power and size. (5 marks)
- d) Being the system administrator at Kabarak University, highlight any five functions of the operating system. (5 marks)
- e) Many people have never acknowledged the importance of networks in an organization. As a computer network administrator explain any five advantages of using computer networks in an organization. (5 marks)
- f) As computer operator compare “minicomputers” with “micro computers”. (5 marks)

## SECTION B

### QUESTION 2 (20 MARKS)

- a) Convert  $(342.23)_8$  to decimal form. (4 marks)
- b) Being a technician at KPLC, Explain in detail the four major types of instruction that originate from the control unit. (4 marks)
- c) Do the following binary arithmetic  
(i)  $00110011 - 00010110$  and  
(ii)  $00101010 \div 00000110$ . (4 marks)
- d) As a network engineer explain any four difference types of networks. (4 marks)
- e) Explain briefly any four disadvantages of Email. (4 marks)

### QUESTION 3 (20 MARKS)

- a) Computers are being used today in all areas of life; explain any four characteristics of a computer. (4 marks)
- b) Explain briefly soft copy and hard copy output devices. (4 marks)
- c) Convert  $(1101101.1001)_2$  to:  
i. Decimal      ii. Octal (4 marks)
- d) The difference between analog and digital computer. (4 marks)
- e) Internet is good as well as bad, explain any three disadvantages of internet. (4 marks)

### QUESTION 4 (20 MARKS)

- a) As an email user list any four advantages of email. (4 marks)
- b) Convert each of the BCD numbers below to their decimal equivalent. (4 marks)  
i)  $100010010111_{BCD}$   
ii)  $1100111.0100_{BCD}$
- c) Briefly explain the main memory of any computer system. (4 marks)
- d) Convert the following number systems do not use shortcut method. (4 marks)  
(i).  $245_{10}$  to binary. (ii).  $11011_2$  to octal
- e) Explain briefly the storage unit of any computer system. (4 marks)

**QUESTION 5 (20 MARKS)**

- a) As one of the internet users today give four advantages of the Internet that you have encountered. (4 marks)
- b) Explain any four different types of computer software. (4 marks)
- c) Explain any four different services offered by the internet. (4 marks)
- d) Interaction between a user and a computer is made possible through both hardware and software. What is the difference between the hardware and software? (4 marks)
- e) Explain what are drivers and their functions in relation to operating system. (4 marks)