KABARAK   **UNIVERSITY**

EXAMINATIONS
2008/2009 ACADEMIC YEAR
FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT
& INFORMATION TECHNOLOGY

COURSE CODE: BMIT 226

COURSE TITLE: COMPUTER PROGRAMMING I

STREAM: Y2S2

DAY: THURSDAY

TIME: 9.00 – 12.00 P.M.

DATE: 06/08/2009

INSTRUCTIONS:

1. Answer question **one** and any other **two**

PLEASE TURN OVER

QUESTION 1 (COMPULSORY) (40 marks)

a) With examples explain the following types of programming languages:
    I. Procedural language   (1mk)
    II. Object-oriented language   (1mk)
    III. Even-driven programming language   (1mk)

b) Distinguish between Command button and the Timer   (2mks)

c) What is the difference between an operator and operand?   (1mark)

d) State any two options for compiling a project in visual basic?   (1mks)

e) Write a short note on each of the following decision making statements:

    (i)   Nested if statement   [2mks]
    (ii)   While statement   [2mks]
    (iii)   Do while statement   [2mks]
    (iv)   For statement   [2mks]

f) Write the syntax of the **simple if statement** and explain how it works using the flow chart? (5mks)

g) Write a simple program to display the following text.   (3mks)
      "WELCOME TO MERICA HOTEL"
     "FEEL AT HOME

h) Write short notes on the following concepts as used in computer programming
    i. array   (2mks)
    ii. Integrated Development Environment (IDE) in VB?   (2mks)
    iii. #include<stdio.h>   (1mk)
    iv. printf(" ")
    v. #define   (1mk)
  i)   Explain how the following program works?   (3mks)

```
main()
 {
    double x,y;
    read:
    scanf("%f",&x);
    if(x<0) goto read;
    y=sqrt(x);
    printf("%f %f\n", x, y);
    goto read;
    }
```

  j) With the help of examples write a short note on each of the following C tokens:
    i) Keywords   (2mks)
    ii) Strings   (2mks)
    iii) Constants   (2mks)
    iv) Special symbols   (2mks)

QUESTION 2(20 MARKS)

a) Consider the following format which Kabarak university follows in grading the students academically:

Average marks	Grade
80 to 100	Honours
60 to 79	First Division
50 to 59	Second Division
40 to 49	Third Division
0 to 39	Fail

Required:

Write a program in C language using the **if else** ladder to grade the students in accordance with the above criteria.   (8mks)

b) Describe the steps involved in building a project in Visual Basic   (6mks)

c) Describe any three types of data type indicating their appropriate place holders?   (6mks)

QUESTION 3 (20 MARKS)

a) Explain the following programming tools as used in visual basic:
  I.   Menu bars   (1mk)
  II. Tool bars   (1mk)
  III. Task bars   (1mk)

b) Using the following user interface write a Visual Basic program to calculate simple interest.   (5mks)

c) Define array?   (2mks)

d) Assume we want to represent a set of four numbers, say (23, 16, 37,10), by an array variable number as follows:

        int number [4];

   Explain and indicate how the computer will assign these elements in the main memory? (4mks)

e) As much as we would like to declare variable names for our own use we must keep in mind that variable names cannot be anything we want. Variables have limitations of what they can be. Explain function of a variable and the rules for declaring variables.   (6mks)

QUESTION 4 (20MARKS)

a) Alfred is an enthusiastic vendor who sales two types of CDs. Write a program in Visual Basic (VB) which he can use such that if a customer selects MP3 or Audio and the number of copies he want the total prices will be displayed?   (7mks)

b) Briefly explain how the following controls are used in building projects in VB.
     I.   Label button   (2mks)
     II. Text Box   (2mks)
     III. Combo box   (2mks)
     IV. List box   (2mks)

c) With example explain the following types of operators:
- i. Arithmetic operators (2mk)
- ii. Relational operators (2mk)
- iii. Assignment operator (1mk)

QUESTION 5 (20 MARKS)

a) Consider:

```
main ()
{
  int x;
  for(x=0;x<=3;)
  {
    x=x+1;
     x++;
     printf("%d",x);
  }
    printf("\n");
}
```

Required:-
- i) Write down the output of the code. (2mks)
- ii) Explain the use of X++ (2mks)
- iii) Write the equivalent code using **While** loop instead of **For** loop. (3mks)
- iv) Write the equivalent code using **Do….While** loop instead of **For l**oop. (3mks)

b) Write the syntax for the **switch case** control statement and explain how it is used. (5mks)

c) Discuss the advantages of employing database management systems in an organization. (5mks)