KABARAK UNIVERSITY

UNIVERSITY EXAMINATIONS

2009/2010 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT & INFORMATION TECHNOLOGY

COURSE CODE: **BMIT 226**

COURSE TITLE: **COMPUTER PROGRAMMING**

STREAM: **Y2S2**

DAY: **FRIDAY**

TIME: **9.00 – 12.00 P.M.**

DATE: **26/03/2010**

INSTRUCTIONS:

- Answer question **ONE** and any other **THREE**

PLEASE TURN OVER

QUESTION 1 (COMPULSORY) (40 marks)

a) With examples explain the following types of programming languages:
   (i) Procedural language (1 Mark)
   (ii) Object-oriented programming language (1 Mark)

b) State and explain the steps followed when executing a C program. (4 Marks)

c) Explain two ways by which values are assigned to variables. (3 Marks)

d) Write and explain the output of the following C program. (4 Marks)

```
#include<stdio.h>
main
{
        int x=5, y=10;
        printf(" x=%d\n",x++);
        printf("y=%d\n",++y);
}
```

e) Briefly explain how the following are used in programming? (2 Marks)
   i. \n iii \t
   ii. // iv *

f) List any ten (10) reserved words found in C. (5 Marks)

g) Describe the variable naming conventions in C language. (4Marks)

h) With the help of examples write a short note on each of the following C tokens:
   i) Keywords (2 Marks)
   ii) Character constants (2 Marks)
   iii) Strings constants (2 Marks)

i) Assume the grade obtained in an exam depends on the mean mark of three subjects as shown below. Design and write a program in C to to input the three marks and compute the grade. (6 Marks)

Mean Mark	**Grade**
At least 70 up to 100	A
Above 60 but less than 70	B
Above 50 but less than 60	C
Below 50	

j) Explain the following concepts as used in object oriented programming language.
   i. Object (1 Marks)
   ii. Class (1 Mark)
   iii. Abstraction and encapsulation (2 Marks)

QUESTION 2 (20 MARKS)

a) Write a program in C language to compute the volume of a sphere? (4 Marks)

b) With the help of the appropriate syntax or flowchart diagram describe the following decision making an branching statements:
   (i) simple if statement (2 Marks)
   (ii) if else statement (2 Marks)
   (iii) switch statement (4 Marks)

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

d) Explain what the following means in pointers? (2 Marks)

```
int *p;
p=&quantity;
```

QUESTION 3 (20 MARKS)

a) Define array? (2Marks)

b) With the help of syntax explain how the two dimensional array is used in C?(4Marks)

c) Assume that the arrays A and B are declared as follows:

```
int A[5][4];
float B[4];
```

Find the errors (if any) in the following program segments. (4 Marks)

(i)
```
for (i=1;i<=5;i++)
for (j=1;j<=4;j++)
A[i][j]=0;
```

(ii)
```
for (i=1;i<4;i++)
scanf("%f",B[i]);
```

d) Write statements in C or C++ to output either "Pass" (if **mean** is at least 50) or "Fail" if **mean** is less then 50). Use flowchart Diagrams to support your code. (6 Marks)

e) List and explain the types of errors in programming. (4Marks)

QUESTION 4 (20MARKS)

a) Write a program that prints odd numbers between 0 and 9 and their sum. (5 Marks)

b) Using a suitable example write about two-dimensional array initialization. (3 Marks)

c) Identify the errors in the following program. (6 Marks)

```
/*PROGRAM TO COMPUTE THE MEAN OF THREE NUMBERS USING C++ LANGUAGE/*

#Include<iostream.h>
void main();
{
double num1, num2, num3, mean
cout>>"\nInput the three numbers";
cin>>num1;cin>>num2;cin>>num3;
mean=num1+num2+num3/3;
cout<<"\nThe mean is"<<Mean;
```

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

(i) While statement (2 Marks)

(ii) Do while statement (2 Marks)

(iii) For statement (2Marks)

QUESTION 5 (20 MARKS)

a) Write a program in C that accepts two integer values and checks whether they are equal or not. (4Marks)

b) Extra borate how the following input/output functions as used to manage data?

(i) getchar() (2Marks)

(ii) putchar() (2Marks)

c) With the help of an appropriate syntax describe the nested –if statement. (4Marks)

d) Differentiate between interpreter and compiler. (2 Marks)

e) With examples explain how the following types of operators are used:

i) Arithmetic operators (2Marks)

ii) Relational operators (2Marks)

iii) Logical operator (2Marks)