

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: THURSDAY

TIME: 9.00 -12.00 P.M.

DATE: 10/12/2009

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 (2½ mks)
 - (ii) Object-oriented programming language (2½ mks)
- b) Explain the importance of C programming language? (5mks)
- c) Identify the errors in the following program and rewrite the correct one: (3mks)

```
#include<stdio.h>
main
{
int a, b, c;
printf("enter the value of a:")
scanf("%f",&a);
printf("enter the value of b:")
scanf("%d",&B);
c=a+b
printf("C=%f",C)

}
```

- d) Briefly explain how the following are used in programming? (2 mks)
- i. \n
 - ii. //
 - iii. \t
 - iv. *
- e) Write a simple C program to display the following text? (2 mks)
"WELCOME TO EGERTON UNIVERSTY 19TH GRADUATION CEREMONY"
- f) Write short notes on the following concepts as used in computer programming :
- i. #include<stdio.h> (2mks)
 - ii. printf() (2mks)
 - iii. scanf() (2mks)
- g) With the help of examples write a short note on each of the following C tokens:
- i) Keywords (3mks)
 - ii) Character constants (3mks)
 - iii) Strings constants (2mks)
- h) Explain the following basic concepts used in object-oriented programming language:
- (i) Objects (2mks)
 - (ii) Classes (2mks)
 - (iii) Data abstraction and encapsulation (3mks)

- i) Identify the bugs in the following segment of a program by re-writing it correctly? (2mks)

```
float a,b;  
int x, *p;  
p=&a;  
b=*p;
```

QUESTION 2 (20 MARKS)

- a) With the help of the appropriate syntax and flow chart describe the following decision making an branching statements:
- (i) simple if statement (2mks)
 - (ii) if else statement (2mks)
 - (iii) switch statement (4mks)
- b) Describe any three types of data type indicating their appropriate identifiers and place holders? (6mks)
- c) Write a program in C language to multiply two values and display the result? (4mks)
- d) Explain what the following means in pointers? (2mks)

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

QUESTION 3 (20 MARKS)

- a) Explain the meaning of an array? (2mks)
- b) With the help of syntax explain how the two dimensional array is used in C? (4mks)
- 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. (4mks)

- (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) What are the outputs of the following sections of code? (4mks)

- (i)

```
int x=10;
while(x<10)
cout<<x++;
```
- (ii)

```
int x=10;
while(x++<=10)
cout<<x;
```

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

QUESTION 4 (20MARKS)

a) Write a program to compute the area of area of a circle? (4mks)

b) Using a suitable example write about one-dimensional and two-dimensional array initialization (6mks)

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

- i. Arithmetic operators (2mks)
- ii. Relational operators (2mks)
- iii. Assignment operator (3mks)

d) What would be the out put of the following program? (3mks)

```
main()
{
int i,j;
int n=2;
int m=4;
for(i=0;i<=5;++i)
{
for(j=m;j<=n;j++)
{
printf("\t*");
}
n=n+1;
printf("\n");
}
}
```

QUESTION 5 (20 MARKS)

- a) Consider a manufacturing company has the following monthly compensation policy on their sale-persons:

| | |
|---------------------------------------|--------------|
| Minimum basic salary | kshs.1500.00 |
| Bonus for every computer sold | kshs.200.00 |
| Commission on the total monthly sales | 2% |

Since the prices of computers are changing the sales prices of each computer is fixed at the beginning of every month.

Required:-

Write down a C program to compute a sales-person's gross salary? (8mks)

- b) Extra borate how the following input/output functions as used to manage data?
- (i) getchar() (2mks)
 - (ii) putchar() (2mks)
- c) Explain how the conditional operator '?' is used in C. Use syntax. (2mks)
- d) Write a short note on each of the following decision making statements
- (i) While statement (2mks)
 - (ii) Do while statement (2mks)
 - (iii) For statement (2mks)