KABARAK   **UNIVERSITY**

EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COURSE CODE: **COMP 326**

COURSE TITLE: **OBJECT ORIENTED PROGRAMMING WITH JAVA**

STREAM: **Y3S2**

DAY: **FRIDAY**

TIME: **2.00 – 4.00 P.M.**

DATE: **20/03/2009**

INSTRUCTIONS:

-       **ANSWER QUESTION ONE AND ANY OTHER TWO**

PLEASE TURN OVER

Question One
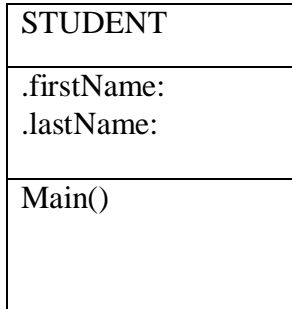
a) what is data encapsulation   1mk

b) Give at least four promising application areas of OOP   2mks

c) Java is a compiled and interpreted language. Explain   4mks

d) What are native methods   2mks

e) Give any four primitive data types supported by java programming
Language   2mks

f) Write a simple java program that prints the words "I love java" on
the screen   5mks

g) Why is initialization important?   1mk

h) What will be the out put of this program

```
Public class Display
{public static void main (String [] args)
   {
        for(int i=20;i=9;i--)
        {
        System.out.print(" ");
        System.out.print(i);
        }
    System.out.println("\n");
    }
}
```
          6mks

i) Explain the difference in the following java statements
a=b; and a= = b;   2mks

j) i)What is a real arithmetic   1mk
ii) int a;   Float b;   type c= a+b;
What will be the data type of variable c? Explain your answer   2mks

k) Given that a=20, b= 5 , c=9 .What is the value of the following expressions
i) a>b&&b>c   ii) a= =b| | a>=c   2mks

Question Two

a) Out line the steps involved in creating a java program   3mks

b) What are the two different types of programs that can be developed in java?
          2mks

c) Explain at least five features of java.   5mks

d) Explain the term java virtual machine   2mks

e) State and explain the different tools of java development tool kit   4mks

f) Give at least four of the commonly used functional packages of the java
Standard library   4mks

Question Three

a) What is a variable   1mk
b) Use an example to show how comments implemented in java,   2mks
c) Give at least two situations that may require you to use comments in
   programming

                                                                                    2mks
d) What is type casting?   1mks
e) A school system has a class STUDENT as shown in the UML diagram
   below

STUDENT
.firstName: .lastName:
Main()

   i)   Write a java program that represents the class   2mks

f) Use the do while statements or otherwise and write a java program that
   Would produce the following outcome   6mks

                  Multiplication table

4	5	6
5	20	30
6	25	36

g) What is the difference between a while statement and do while   statement 2mks
g) The following is a segment of a program

   X=1;
   Y=1;
   If (n>0)
   Z= X+ +;
   K= - -Y;

   What will be the values of Z and K after the code is executed if the
   Values of n are i) 1   1mks
                        ii) 0   1mks

Question Four

a) What is a constructor in java 2mk
b) Explain the difference between
      i) Local variable and global variable   2mks
      ii) Static and instance members 2mks
c) Give and explain the different accessibility modifiers in java   4mks
d) Write a statement to declare and instantiate an array to hold marks obtained
   by students in different subjects in a class. Assume that the class can hold
   up to 60 students and there are 8 subjects   3mks

f) Give one advantage of inheritance in OOP   1mk
g) Explain the different forms of inheritance supported by java   6mks

Question Five

a) ------------------
   ----
   char g;
   int marks;
   if (marks>69)
      g= 'A';
   else if(if (marks>59)
      g= 'B';
   else if(if (marks>49)
      g= 'C';
   else if (marks>39)
      g= 'D';
   else
      g= 'E';

Show how the same piece of program can be implemented using the switch statement
                                                                               5mks
c) How is an applet different from a java stand alone program   2mks
d) Explain with an example what is meant by method overloading   5mks
d) Using an example, Describe what an event is in event driven programming   2mks
e) When is friendly accessibility modifier assumed in java?   4mks
f) Explain the difference between simple if and if else statements   2mks