KABARAK **UNIVERSITY**

UNIVERSITY EXAMINATIONS

2009/2010 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT & INFORMATION TECHNOLOGY

COURSE CODE: **BMIT 327**

COURSE TITLE: **OBJECTIVE ORIENTED ANALYSIS AND DESIGN AND JAVA PROGRAMING**

STREAM: **Y3S2**

DAY: **FRIDAY**

TIME: **2.00 – 5.00 P.M.**

DATE: **04/12/2009**

INSTRUCTIONS:

- **DO QUESTION ONE AND ANY OTHER THREE**

PLEASE TURN OVER

QUESTION ONE (40MKS)

a) Define an information system   2mks

b) Explain the basic components of a system   8mks

c) Explain the following

        i) Requirement definitions   2mks

        ii) Requirement specifications   2mks

        iii) Software specification   2mks

d) What is an object in the view of object oriented analysis.   1mk

e) State at least five primary goals for the design of UML as a modeling language 5mks

f) Give any four primitive data types supported by java programming

        Language   2mks

g) What will be the out put of this program

```
public class Display
{public static void main (String [] args)
  {
       for(int i=1;i=9;i++)
       {
       System.out.print(" ");
       System.out.print(i);
       }
    System.out.print(\n);
    }
}
```
        3mks

h) Explain with an example what is meant by method overloading   3mks

i) Give and explain the different accessibility modifiers in java   4mks

j) Use a uml diagram to show how the accessibility modifiers are presented in a class
diagram   6mks

QUESTION TWO (20MKS)

a) Compare and contrast between a collaboration diagram and a sequence diagram 8mks

b) What is a case tool?   2mk

c) The following case describes the process of admitting a patient in a hospital.

- Patient arrives at reception
- Patient gives personal details and is given a form
- Patient goes to ward and hands in form
- Patient is interviewed by nurse and gives medical details
- Patient is interviewed by aneasthetist and gives the same medical details

- Patient is examined by consultant
- Patient is given a pre-med injection
- Patient is taken to surgery
- Patient is given anaesthetic
- Patient is operated on
- Patient is returned to ward
- Patient is examined duty doctor
- Patient is examined by nurse
- Patient is examined by consultant
- Patient is discharged

draw an appropriate sequence diagram to represent the scenario   10mks

QUESTION THREE 20MKS

a) What is a variable   1mk
b) Explain the difference between a data type and a constant   2mks
c) What is type casting?   1mks
d) A school system has a class STUDENT as shown in the UML diagram
   below

STUDENT
.firstName:
.lastName:
Main()
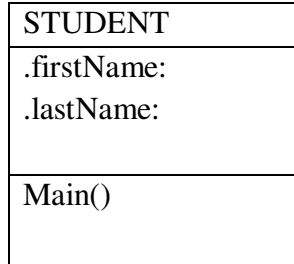
     i)   Write a java program that represents the class   3mks

     ii)   In the code, add a method that returns the combination of the
            firstName and the lastName as the Student Names   3mks

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

                                                                   6mks

Multiplication table		
1	2	3
2	4	6
3	6	9
4	8	12
5	10	15

f) What is the difference between a simple if statement and an if else .. statement
2mks

g) The following is a segment of a program
X=1;
Y=1;
If (n>0)
 X= X+ +;
Y= - -Y;
What will be the values of X and Y after the code is executed if the
values of n are   i)   1
                      ii)   0   2mks

QUESTION FOUR 20MKS

a) Discuss the four basic components of a use case diagram and show the symbol for each of the component   4mks
b) Explain the following relationships as used in a use case diagram
    i) extends   2mks
    ii) Includes   2mks
c) Compare and contrast the state diagrams and the activity diagrams   8mks
d) Java is a compiled and interpreted language. Explain   4mks

QUESTION FIVE 20MKS

a) Define the following terms
    i) Class   1mk
    ii) Object   2mks
    ii) Attributes   2mks
    iii) Method   2mks

b) Explain the different steps used in developing a java application   4mks
c) Discuss the different types of inheritance   9mks