

**KABARAK**



**UNIVERSITY**

**EXAMINATIONS**

**2008/2009 ACADEMIC YEAR**

**FOR THE DEGREE OF BACHELOR OF COMPUTER  
SCIENCE**

**COURSE CODE: COMP 326**

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

**STREAM: Y3S2**

**DAY: THURSDAY**

**TIME: 8.30 - 10.30 A.M.**

**DATE: 11/12/2008**

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**INSTRUCTIONS:**

Answer Question 1 and **two other** Questions

**PLEASE TURN OVER**

### **Question One (30 MARKS)**

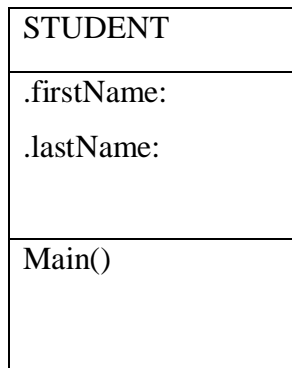
- a) What is data encapsulation? 1mk
- b) Give at least four promising application areas of OOP 2mks
- c) Java is a compiled and interpreted language. Explain 4mks
- d) What are native methods? 2mks
- e) Give any four primitive data types supported by java programming Language 2mks
- f) Write a simple java program that prints the words “java is interesting” 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=1;i=9;i++)
    {
        System.out.print(“ “);
        System.out.print(i);
    }
    System.out.print(\n);
}
}
```
- 6mks
- i) Explain the difference in the following java statements  
a=b; and a= = b; 2mks
- j) i)What is integer 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 (20 MARKS)**

- a) Out line the steps involved in creating a java program 3mks
- b) What are the 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 (30 MARKS)**

- 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



- i) Write a java program that represents the class 2mks
- ii) In the code, add a method that returns the combination of the firstName and the lastName as the Student Names 2mks

- 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 |

- 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 2mks
  - ii) 0 2mks

**Question Four (20 MARKS)**

- a) What is a constructor in java 2mk
- b) Explain the difference between
  - i) Local variable and global
  - ii) Static and instance members 2mks
- c) Explain with an example what is meant by method overloading 3mks
- d) Give and explain the different accessibility modifiers in java 4mks
- e) 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 3mks

**Question Five (20 MARKS)**

- a) What is a random access file and how is it different from the sequential file? 6mks
- b) What is an applet? 2mk
- c) How is an applet different from a java stand alone program 3mks
- c) Write an applet that displays the words “applets are simple” and a web page that uses the applet 5mks
- d) Using an example, Describe what an event is in event driven programming 2mks
- e) Give and explain the two categories of errors in java 4mks