National School of Business Management
SAMPLE PAPER
Year 1 Semester 2
Programming in Java
BMIS108

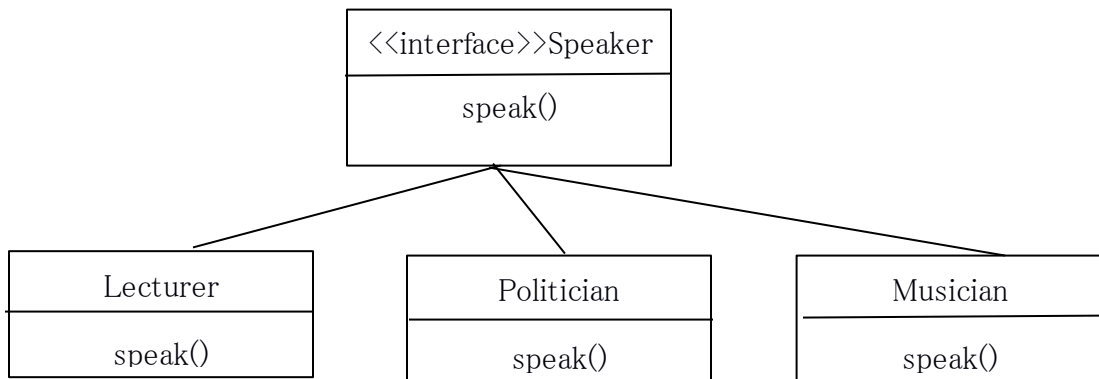**Time: 03Hrs**

Answer All Questions

01. Part I

a. Fill in the blanks.

    I.   Real-world objects contain ___ and ___.

    II.   Hiding internal data from the outside world, and accessing it only through publicly exposed methods is known as data ___.

    III.   A blueprint for a software object is called a ___.

    IV.   Common behavior can be defined in a ___ and inherited into a ___ using the ___ keyword.

    V.   A collection of methods with no implementation is called an ___.

    Part II

    I.   What are the four pillars of OOP?

    II.   Why we use inheritance in Java

    III.   Briefly explain the rationale behind abstract class and abstract methods

b. Briefly explain the 'Encapsulation' concept using a simple code block. This class could contain one integer variable, one double variable and a String variable.

c. Refer the below diagram and derive required classes/interfaces with methods.

```
        ┌─────────────────────────┐
        │ <<interface>>Speaker    │
        ├─────────────────────────┤
        │ speak()                 │
        └─────────────────────────┘
```

Lecturer	Politician	Musician
speak()	speak()	speak()

02. **JDBC** is used for accessing databases from Java applications. Information is transferred from relations to objects and vice-versa.

Write code snippet to querying which will delete an employee called "Bogdan" holding employee id "E10875" from table "Employee". For this you're asked to connect to a DB called "EMPDB" which is hosted using Local host.

03.
  a. What is an "Exception"? List down main types of exceptions.

  b. Briefly explain the possible exception handling mechanisms available in java. Please provide required code snippets.

  c. Declare your own exception class which includes two variables to store account number and balance. Derive methods to deposit money and withdraw, this will throws an exception InsufficientFundsException if there's no sufficient balance.

04. Draw an interface using Java Swing components to input two numbers and display the total. Write the event handling code behind "Add" Button. (Only for add function)

05.

a. What is a thread?

b. What is difference between wait() and sleep() method?

c. Write a program which will create a named Threads called ("ThreadRunner"). Retrieve the thread priority and if the thread priority is below 6 set the thread priority to 6. Then run the thread to print thread name 10 times on the console.