A10.1-R4: INTRODUCTION TO OBJECT ORIENTED PROGRAMMING THROUGH JAVA

NOTE:

1. There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.

2. **PART ONE** is to be answered in the **TEAR-OFF ANSWER SHEET** only, attached to the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book.

3. Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates, who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE**.

TOTAL TIME: 3 HOURS **TOTAL MARKS: 100**

(PART ONE – 40; PART TWO – 60)

PART ONE
(Answer all the questions)

1. Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

1.1 Which one is not supported by OOP?
A) Abstraction
B) Polymorphism
C) Encapsulation
D) Global variables

1.2 Which one is not a valid jump statement
A) return
B) goto
C) continue
D) break

1.3 Constructors have return type
A) int
B) boolean
C) void
D) none

1.4 The signature of a method consists of
A) Type of the parameters
B) Number of parameters
C) Name of the method
D) all of the above

1.5 A package is a collection of
A) classes
B) interfaces
C) editing tools
D) classes and interfaces

1.6 Which exception is thrown by read( ) method?
A) Exception
B) FileNotFoundException
C) ReadException
D) IOException

1.7 Which of the following statements about hierarchy of the class java.awt.Applet is incorrect?
A) An applet is a kind of container
B) An applet is a kind of window
C) An applet is a kind of component
D) An applet is a kind of panel

1.8 Which one of these is not an AWT event class?
A) MouseEvent
B) MouseMotionEvent
C) ItemEvent
D) WindowEvent

1.9 Which one is not a status of loading image in Media Tracker class
A) COMPLETED
B) ABORTED
C) LOADING
D) SUSPENDED

1.10 UML depicts information systems as a collection of
A) objects
B) processes
C) data
D) information

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "tear-off" sheet attached to the question paper, following instructions therein. (1x10)

2.1 A java program can be run in any computer running any operating system.

2.2 The bitwise operators can operate on float type operands.

2.3 A subclass can be created which inherits only a few methods of the superclass.

2.4 The file class can be used to read and write data.

2.5 The terms BOLD, PLAIN, ITALIC specifies the type of a font.

2.6 Images can be used in creating JButton.

2.7 Container is a parent class of component.

2.8 BoxLayout Manager is always associated with the Box class.

2.9 Establishing a session is done through connection object.

2.10 Interaction diagrams describe how groups of objects collaborate in some behavior.

3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

X		Y	
3.1	Constructor	**A.**	Are part of Java Foundation Classes
3.2	Break	**B.**	A driver that acts as a link or bridge between client and database server
3.3	Interfaces	**C.**	Can have variable columns (element)
3.4	Swing classes	**D.**	Method can be called without the instance of a class
3.5	Applet	**E.**	Is a statement when encountered takes the control to the end of the loop
3.6	JDBC	**F.**	A special method that is used to initialize an object
3.7	Multi-dimensional array	**G.**	Is a statement when executed, control skips the remaining portion of the loop
3.8	Static	**H.**	It is incharge of cleaning the memory space allocated to the objects that are not in use
3.9	Attribute	**I.**	Travel in the network as bytecode
3.10	Inception	**J.**	Makes an initial evaluation of a project
		K.	Notation describes a property as a line of text within the class box itself
		L.	Travel in the network as c-code
		M.	Help to realize the concept of multiple inheritance

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

A.	Transition	**B.**	Software	**C.**	Overloading
D.	Overriding	**E.**	Visibility	**F.**	Not be
G.	Hardware	**H.**	Be	**I.**	Filter
J.	Wrapper classes	**K.**	Same	**L.**	Final
M.	Exception				

4.1 Variables names defined in different blocks can _____ the same.

4.2 When one or more methods have the same name but with different parameters, then the methods are called _____ methods.

4.3 A method declared as _____ can not have overriding method.

4.4 Package statement helps to create many classes to have _____ name.

4.5 User defined exception can be created using _____ class.

4.6 The _____ are defined in java.lang package.

4.7 _____ streams help to convert raw bytes into basic type of java.

4.8 Java virtual machine is a virtual computer built using _____.

4.9 _____ includes various late-stage activities that you don't do iteratively.

4.10 _____ is a subject that is simple in principle but has complex subtleties.

PART TWO

(Answer any **FOUR** questions.)

5.

a) What are the layers of abstraction found in an object-oriented program?

b) Why java is important to the Internet?

c) What do you understand by UML meta-model?

(5+5+5)

6.

a) Explain the reasons to use Inheritance. Illustrate by an example that a protected feature is more accessible than a private one and less accessible than a public feature.

b) Will widespread software reuse become reality? Explain.

(10+5)

7.

a) What is an exception? How do we define try/catch block?

b) What are the following?

i) an applet
ii) Applet viewer
iii) an HTML tag
iv) an applet tag

c) What is AWT? Explain the difference between a component and a container. What is the purpose of the add( ) method?

(5+4+6)

8.

a) Explain the multiple and dynamic classification.

b) Describe the terms DataSource, DriverManager, Driver, Application classes in JDBC.

c) Explain the Deployment diagrams in UML.

(5+4+6)

9. Write short notes on any **three** of the following:

a) Interfaces and Inner Classes

b) Overloading and Overriding

c) Constructors & Destructors

d) Stream & Files

(3x5)