NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: III - CARRY OVER THEORY EXAMINATION - APRIL 2023

Subject: Object Oriented Techniques using Java

Time: 3 Hours   Max. Marks: 100

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*

1. *This Question paper comprises of **three Sections -A, B, & C.** It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.*

2. *Maximum marks for each question are indicated on right -hand side of each question.*

3. *Illustrate your answers with neat sketches wherever necessary.*

4. *Assume suitable data if necessary.*

5. *Preferably, write the answers in sequential order.*

6. *No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.*

SECTION A   20

1. Attempt all parts:-

1-a.   If a variable, object or method perform different behaviour according to   1
          situation, it is called abstraction [CO1]

                (a) Inheritance

                (b) Polymorphism

                (c) Abstraction

                (d) Encapsulation

1-b.   which is not the type of Inheritance are [CO1]   1

                (a) Multiple

                (b) Graph

                (c) Multilevel

                (d) Single level

1-c.   Minimum numbers of abstract method in an abstract class? [CO2]   1

                (a) 1

                (b) 0

(c) 2

(d) Any

1-d.   Java _____ is invoked at the time of object creation. [CO2]   1

      (a) constructor

      (b) class

      (c) method

      (d) array

1-e.   _____ package Exception class exist ?[CO3]   1

      (a) java.lang

      (b) java.util

      (c) java.io

      (d) java.awt

1-f.   _____ is superclass of String and StringBuffer class[CO3]   1

      (a) java.util

      (b) Object

      (c) Throwable

      (d) java.lang

1-g.   Identify the data type of isDaemon() method in thread[CO4]   1

      (a) boolean

      (b) int

      (c) byte

      (d) none of the above

1-h.   The keyword that is used to protect the methods from simultaneous access in   1
Threads is _____ [CO4]

      (a) save

      (b) synchronized

      (c) Both

      (d) This task is not possible in threads

1-i.   _____ arranges the components horizontally.[CO5]   1

      (a) BorderLayout

      (b) CardLayout

      (c) GridLayout

      (d) FlowLayout

1-j. _____ is the given classes present in System.Collection.Generic.namespace. [CO5]   1

        (a) Stack

        (b) Tree

        (c) Sorted Array

        (d) All of the mentioned

2. Attempt all parts:-

2.a.   Explain the word "Abstraction". [CO1]   2

2.b.   What is a class in java. [CO2]   2

2.c.   Can a source file contain more than one class declaration?[CO3]   2

2.d.   Describe Java Buffered Reader Class.[CO4]   2

2.e.   What do you understand by Collection Framework in Java? [CO5]   2

SECTION B   **30**

3. Answer any <u>five</u> of the following:-

3-a.   Explain the conditional operator and the instanceof operator? [CO1]   6

3-b.   Explain nested-if condition with its syntax and an example. [CO1]   6

3-c.   Explain the advantages of inheritance? [CO2]   6

3-d.   Differentiate Abstract classes and interface. [CO2]   6

3-e.   Differentiate between error and exception?[CO3]   6

3.f.   Write a Java program to get file size in bytes, kb, mb.[CO4]   6

3.g.   Define Collections. [CO5]   6

SECTION C   **50**

4. Answer any <u>one</u> of the following:-

4-a.   Explain return statement with its syntax and an example. [CO1]   10

4-b.   Differentiate between overloading and overriding [CO1]   10

5. Answer any <u>one</u> of the following:-

5-a.   What is ArrayIndexOutOfBoundsException in java? When it occurs in java program. Illustrate with example. (CO2)   10

5-b.   Create a java program to display "Hello! Java" using Class, Object and Method. [CO2]   10

6. Answer any <u>one</u> of the following:-

6-a.   Write the differences between String, StringBuffer and StringBuilder classes.   10

With proper syntax, explain the following methods. [CO3]

1. Method to extract a particular character of a string.
2. Reverse a String.

6-b.   What is checked exception. How to handle a chain of exception explain with   10
example?[CO3]

7. Answer any <u>one</u> of the following:-

7-a.   What is the difference between thread and a process? Explain the concept of   10
Inter Thread Communication and describe the role of wait(), notify(), and
notifyAll() methods in inter thread communication. [CO4]

7-b.   Write a program for writing bytes to a file[CO4]   10

8. Answer any <u>one</u> of the following:-

8-a.   Discuss some general rules for using layout managers. Describe the various   10
layout managers available in AWT. [CO5]

8-b.   Illustrate Container class with real life example. [CO5]   10