Subject Code:- ACSE0402
Roll. No:

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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech
SEM: IV - THEORY EXAMINATION (2021 - 2022)
Subject: Object Oriented Techniques Using Java

Time: 3 Hours   Max. Marks: 100

General Instructions:
1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question No- 2 carries 2 mark each.
3. Section B - Question No-3 is based on external choice carrying 6 marks each.
4. Section C - Questions No. 4-8 are within unit choice questions carrying 10 marks each.
5. 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.	Constant that can not be changed are declared using the keyword_____ in JAVA(CO1)	1

(a) static
(b) final
(c) abstract
(d) immutable

1-b.	Which is the keyword used to specify the DEFAULT access modifier in java? (CO1)	1

(a) default
(b) bydefault
(c) normal
(d) There is no keyword

1-c.	The mechanism of deriving a new class from an old one is called _____ (CO2).	1

(a) Method overriding
(b) Method overloading
(c) Operator overloading
(d) Inheritance

1-d.	Which of the following statement is not true for polymorphism? (CO2)	1

(a) It is feature of OOP
(b) Ease in readability of program
(c) Helps in redefining the same functionality
(d) Increases overhead of function definition always

1-e.	How to compile and run JAVA package programs?(CO3)	1

(a) javac -d . <classname>.java
java <packagename>.<classname>
(b) javac -d <classname>.java
java <classname>
(c) javac <classname>.java
java <classname>
(d) javac -d <classname>.java
java <packagename>.<classname>

1-f.	Which of these keywords is used to manually throw an exception?(CO3)	1

(a) try

(b) finally

(c) throw

(d) catch

| 1-g. | method of FileReader class is used to read characters from a file (CO4) | 1 |

(a) read()

(b) scanf()

(c) get()

(d) getInteger()

| 1-h. | A thread can be interrupted in which of the following state? (CO4) | 1 |

(a) in sleep state

(b) in wait state

(c) in both states

(d) none of the states

| 1-i. | Package of drawstring() method is (CO5) | 1 |

(a) java.applet

(b) java.io

(c) javax.swing

(d) java.awt

| 1-j. | Which of the below does not implement Map interface? (CO5) | 1 |

(a) HashMap

(b) Vector

(c) Hashtable

(d) EnumMap

2. Attempt all parts:-

2.a.	What does the static keyword mean? (CO1)	2
2.b.	What is copy constructor? Write an example of your choice.(CO2)	2
2.c.	What is the difference between StringBuffer and StringBuilder?(CO3)	2
2.d.	Explain the concept of countDownLatch. (CO4)	2
2.e.	What is the difference between Array and ArrayList? (CO5)	2

<div align="center">SECTION B   30</div>

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

3-a.	Define command line arguments. Why are they important? Justify your answer with suitable example. (CO1)	6
3-b.	Illustrate the Iteration Statements and return statement with JAVA examples. (CO1)	6
3-c.	What is Abstraction in Java? Explain with example. How to achieve or implement Abstraction in Java? (CO2)	6
3-d.	Compare overloading and overriding of methods in java using proper examples. (CO2)	6
3.e.	Define String? Explain different String declarations with an example. Why string objects are immutable in JAVA? (CO3)	6
3.f.	Write a JAVA program for creating, applying and accessing annotation.(CO4)	6
3.g.	Differentiate between HashMap and TreeMap. (CO5)	6

<div align="center">SECTION C   50</div>

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

| 4-a. | Write a JAVA program that takes values of name, age, department and marks of 4 subjects from the user. Display the name, total and average of marks computed. (CO1) | 10 |
| 4-b. | Differentiate between overloading and overriding (CO1) | 10 |

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

5-a.   What is an abstract class? Create an abstract class 'Animals' with two abstract methods   10
        'meow' and 'dogs'. Now create a class 'Cats' with a method 'cats' which prints "Cats meow"
        and a class 'Dogs' with a method 'dogs' which prints "Dogs bark", both inheriting the class
        'Animals'. Now create an object for each of the subclasses and call their respective methods.
        (CO2)

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

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

6-a.   What is the difference between error and an exception? Is it necessary that each try block   10
        must be followed by a catch block? Explain the different ways to handle exceptions. (CO3)

6-b.   What is string in JAVA? What are the different ways to create String Object? Write a JAVA   10
        program to display the entered string in uppercase? (CO3)

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

7-a.   What is stream? What are two different streams? Write a Java program to read a file content   10
        line by line and display it on monitor. (CO4)

7-b.   Differentiate between thread and process. Describe the lifecycle of a thread. (CO4)   10

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

8-a.   What is a layout manager and what are different types of layout managers available in Java   10
        Swing? (CO5)

8-b.   Compare HashMap and Hashtable. Explain with the help of an examples. (CO5)   10