NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA

SEM: II - THEORY EXAMINATION (2022-2023 **)**

Subject: Object Oriented Programming with 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.   What is an object?   (CO1)   1

           (a) It is a function of class

           (b) It is an instance of the class

           (c) It is the code of class

           (d) It is part of the syntax of class

1-b.   A loop in Java language may contain ___.   (CO1)   1

           (a) Any loop

           (b) if..else statements

           (c) switch statements

           (d) All

1-c.   Array data element access by using _____.   (CO2)   1

           (a) Operator

           (b) Variable

           (c) Index

(d) Pointer

1-d.   We can calculate the length of an array using _____.   (CO2)   1

        (a) sizeof(array)

        (b) array.len

        (c) array.length

        (d) array.sizeof()

1-e.   Which of these keywords is used to define packages in Java?   (CO3)   1

        (a) pkg

        (b) @Pkg

        (c) package

        (d) @Package

1-f.   Exception is _____   (CO3)   1

        (a) Class

        (b) Interface

        (c) Abstract class

        (d) Other

1-g.   Which is the parent class of annotation class?   (CO4)   1

        (a) Class

        (b) Object

        (c) Super

        (d) Main

1-h.   Which method is used to write a byte to the current output stream?   (CO4)   1

        (a) public void write(int)throws IOException

        (b) public void write(byte[])throws IOException

        (c) public void flush()throws IOException

        (d) public void close()throws IOException

1-i.   By which method you can set or change the text in a Label?   (CO5)   1

        (a) setText()

        (b) getText()

        (c) Both A & B

        (d) None of the above

1-j.   What JDBC stands for?   (CO5)   1

        (a) Java Database Connect

(b) Java Database Connectivity

(c) Java Developer Council

(d) None of the above

2. Attempt all parts:-

2.a.	Define object diagram in Java. (CO1)	2
2.b.	Define lambda expression? (CO2)	2
2.c.	Describe Scanner class in Java. (CO3)	2
2.d.	What is annotations? (CO4)	2
2.e.	Explain ArrayList in java? (CO5)	2

SECTION B   **30**

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

3-a.	Explain argument passing mechanism in java through example. (CO1)	6
3-b.	Explain polymorphism concept in java. (CO1)	6
3-c.	Discuss this and super keyword with example in Java. (CO2)	6
3-d.	Demonstrate the use of inner class in Java with example. (CO2)	6
3.e.	Define StringBuilder Class. Describe constructors of StringBuilder with syntax. (CO3)	6
3.f.	Demonstrate how can we write and read the data into the file using I/O class. (CO4)	6
3.g.	Describe wrapper class in java. (CO5)	6

SECTION C   **50**

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

4-a.	Explain looping and branching statements in java with example. (CO1)	10
4-b.	Write a program in java to calculate factorial of given number by using Scanner class. (CO1)	10

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

5-a.	Briefly describe hierarchical and multilevel inheritance in Java. (CO2)	10
5-b.	Explain following: constructor overloading and method overriding. (CO2)	10

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

6-a.	Define & illustrate use of String class with example. Describe various methods of String class. (CO3)	10
6-b.	Explain exception handling in java and also describe finally block with example. (CO3)	10

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

7-a.   Illustrate the creation of thread by extending Thread class. Also draw life cycle   10
        of thread.   (CO4)

7-b.   Describe the use of Java I/O stream. Depict hierarchy of OutputStream and   10
        InputStream.   (CO4)

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

8-a.   Explain swing components. Also describe layout managers and event   10
        handling.   (CO5)

8-b.   Explain List, Set and Map with example in java.   (CO5)   10