QP Code: | Reg. No | | | | | | | | | | | AR 23/24

# GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
## (GIET UNIVERSITY)

M.C.A (Second Semester) Regular/Supplementary Examinations, May – 2025

## MCA23202–Object Oriented Programming using JAVA

(MCA)

Time: 3hrs | Maximum: 60 Marks

**(The figures in the right hand margin indicate marks)**

**PART – A** **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions

| | | CO # | Blooms Level |
|---|---|---|---|
| a. | List out all the ways to create a String. | CO1 | K1 |
| b. | class hello<br>{<br>public static void main(String args[])<br>{<br>try<br>{<br>int a, b;<br>b = 0;<br>a = 5 / b;<br>System.out.println("GIET");<br>}<br>catch(ArithmeticException e)<br>{<br>System.out.println("MCA");<br>}<br>finally<br>{<br>System.out.println("UNIVERSITY");<br>}<br>}<br>} | CO2 | K1 |
| c. | Explain the deadlock situation in multithreading. | CO3 | K2 |
| d. | Explain wait(), notify() and notifyAll() methods? | CO4 | K2 |
| e. | List out all the usages of “super” keyword in inheritance. | CO5 | K1 |

**PART – B** **(10 x5=50 Marks)**

Answer ***ALL*** questions

| | | Marks | CO # | Blooms Level |
|---|---|---|---|---|
| 2. a. | Explain the basic characteristics of object-oriented programming. Write a program to read a number using a command line argument and check whether it is even or odd. | 5 | CO1 | K2 |
| b. | Write a java program to print all the prime numbers between 100 and 200. | 5 | CO1 | K3 |
| | (OR) | | | |
| c. | Explain all the features of Java. | 5 | CO1 | K2 |
| d. | Write a program in java to find the area of triangle, circle and rectangle using method overloading. | 5 | CO1 | K3 |

| | | | | |
|---|---|---|---|---|
| 3.a. | List out all the differences between "**abstract class**" and "**interface**". Explain the role of marker interface. | 5 | CO2 | K2 |
| b. | Demonstrate the following with examples on each.<br>1) Dynamic method dispatch<br>2) Constructor overloading | 5 | CO2 | K3 |
| | (OR) | | | |
| c. | List out all the inheritances supported by java. Explain with an example how multiple inheritance is achieved in java. | 5 | CO2 | K2 |
| d. | Explain all the keywords used in the exception handling mechanism. Write a java program to demonstrate how arithmetic exception can be handled. | 5 | CO2 | K3 |
| 4.a. | What is serialization? Explain the role of "**transient**" keyword in serialization with an example. | 5 | CO3 | K2 |
| b. | Explain the following with an example of each:<br>i. synchronized method<br>ii. synchronized block | 5 | CO3 | K3 |
| | (OR) | | | |
| c. | Explain the life cycle of a thread. Write a program to illustrate the usage of join() method. | 5 | CO3 | K2 |
| d. | What do you mean by inter thread communication. Describe with example. | 5 | CO3 | K3 |
| 5.a. | Write an applet program to display an image. | 5 | CO4 | K3 |
| b. | How applets are different from applications? Explain the life cycle of an applet. | 5 | CO4 | K2 |
| | (OR) | | | |
| c. | Write a java program to copy the contents of the file "source.txt" to "dest.txt". | 5 | CO4 | K3 |
| d. | What is user defined Exception in Java? WAP to accept student age and check whether he is eligible to vote or not? Show an appropriate message when the age is not eligible. | 5 | CO4 | K2 |
| 6.a. | Write a java program to add rollno, name and marks of students into a MySQL table named "student". (Data should be entered from console) | 5 | CO5 | K3 |
| b. | Write a java program to display rollno, name and marks of students stored in a MySQL table named "student". (Display the result in console) | 5 | CO5 | K3 |
| | (OR) | | | |
| c. | What do you mean by event in AWT/SWING. Write down the steps to handle ActionEvent. | 5 | CO5 | K2 |
| d. | Write a program to explain event handling related to a checkbox. | 5 | CO5 | K3 |

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