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# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## May 2023 Semester End Main Examinations

**Programme: B.E.**

**Semester: III**

**Branch: Computer Science and Engineering**

**Duration: 3 hrs.**

**Course Code: 22CS3PCOOJ**

**Max Marks: 100**

**Course: Object Oriented Java Programming**

**Date: 12.05.2023**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

1	a) Interpret the meaning of key-words in “public static void main(String args[])”. Explain the steps for compiling and running a JAVA application. <span style="float: right;">8</span>
	b) Write a program to create a class called student and declare a constructor to initialize the data members like name, usn and semester. Create display method to display above data members of the object. Illustrate the role of “this” pointer in this program. <span style="float: right;">6</span>
	c) Illustrate method overloading with an example program. Specify the conditions to overload a method. <span style="float: right;">6</span>

### UNIT - II

2	a) What is inheritance? Write a program to demonstrate the access specifiers from the point of inheritance. <span style="float: right;">8</span>
	b) In case of multilevel inheritance, how do you initialize the data members of base class, Illustrate with an example program. <span style="float: right;">6</span>
	c) Define an abstract class called “Figure” with method area () & extend this class to find area of a rectangle & a triangle. <span style="float: right;">6</span>

### UNIT - III

3	a) Define an interface area and implement this interface to find area of a rectangle & a triangle. <span style="float: right;">8</span>
	b) Demonstrate the use of throw and throws for exception handling in java with a code snippet. <span style="float: right;">6</span>
	c) Construct a program with nested try statements for monitoring different types of errors. <span style="float: right;">6</span>

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

**OR**

4 a) Implement user defined exception in a java program for Bank application which has a class with instance variables accno, name, balance and methods like deposit(amt) and withdraw(amt). If the balance falls below 2000/- then it should throw user defined exception “insufficient balance”. 10

b) Write a program to demonstrate user defined exception in java, create an exception called “NoMatchException” that throws a string mismatch exception when a input string is not equal to “BANGALORE”. 10

**UNIT - IV**

5 a) Write a java program to create two threads one thread will print odd numbers whereas other thread will print even numbers between 1 to 20 numbers. 6

b) Create a java program to change the name of the main thread to “MyThread” and display thread name, priority and the name of the group to which it belongs. 6

c) What is synchronization? How do you achieve synchronization in java explain with example program. 8

**UNIT - V**

6 a) Discuss the concept of Delegation Event Model along with key advantage of it. 7

b) Briefly explain the role of  
i)Event Classes ii) Sources of events iii) Adapter classes iv) Event listener 8

c) Discuss in detail, all the methods of MouseListener interface. 5

**OR**

7 a) Design a Java program to demonstrate the mouse event handlers implementing the appropriate Event Listener interfaces. 6

b) Give the steps (along with java code) to be followed to get a window to appear on the screen using the frame object. 6

c) Write a java program to demonstrate the usage of graphics class to draw lines, polygon, circle and oval. 8

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