SRINIVAS UNIVERSITY
INSTITUTE OF ENGINEERING AND TECHNOLOGY
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK

OBJECT ORIENTED CONCEPTS

SUBJECT CODE: 19SCS43

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Object Oriented Concepts (19SCS43)

Module Wise Frequently Asked Questions

Module 1

1. List and explain in detail principles of Object Oriented Programming
2. Differentiate between Procedure Oriented and Object Oriented Programming with examples for both.
3. List out the characteristics of Procedure Oriented Programming and Object Oriented Programming
4. List any four benefits and limitations of OOP and Differentiate between OOP and POP with examples for both.
5. Write a C++ program to overload the function **area()** with three overloaded function to

   find the area of the rectangle and area of triangle and area of circle.

6. Write a C++ program to define a class **Rectangle** which contains data members *length* and *breadth* and member functions setdata(), getdata(), displaydata(), area() to set length and breadth, to take user input,to display data and find the area of the rectangle. (6M)
7. What is an inline function? In what circumstances the function cannot be executed in the Inline mode? Write a C++ program to find the cube of a number using an inline function.
8. List the difference between

   i) Call by value & call by reference

   ii) Structure and class

Module-2

1. What is Java? List the Java buzzwords, and explain them in detail.
2. What is Java? Explain the components of a java program/application with the help of "Hello World" program, with steps to compile and run the program.
3. With a neat diagram, discuss the structure of the java program.
4. Consider the array `int a[]={11,22,33,44,55,66}` Write a program to print the elements of array `a` using both for-each style loop and regular for loop.

5. Write a Java program to implement a basic calculator to perform arithmetic operations for the operands accepted from the user and display the result appropriately.
6. Write a Java program to display the roots of a quadratic equation (ax^2+b) find the discriminant D and display the roots appropriately
7. Write a program which implements a variation of a method named 'add' for adding and returning the sum of two integers, three integers also to add two floating point numbers. Invoke the method appropriately and display the result.

8. Write a program to find the factorial of a given number

Module-3

1. Define class. Bring out key differences between a C++ class and a Java class. Write a Java Program to represent an employee in a company with attributes say employee id, name, address and salary. Define appropriate getters and setters for setting and retrieving values of the attributes, and display at least 2 employee information.
2. Explain the following keywords: i) this ii) super iii) static iv) final
3. Define Constructor. List the characteristics of constructors.
4. Explain different types of constructor with an example program.
5. Distinguish between method overloading and method overriding.
6. Write a program which implements a variation of a method named 'add' for adding and returning the sum of two integers, three integers also to add two floating point numbers. Invoke the method appropriately and display the result.
7. Explain the uses of static keyword with an example program
8. Define Inheritance, give the syntax of extended class. Discuss different types of inheritance with neat diagrams for each.
9. Discuss the use of super keyword. Write a program to represent a Box with constructors to initialize its fields, extend the Box to derive WeightedBox and demonstrate the use of super.
10. What is an interface? Differentiate between class and interface. Give the syntax of defining an interface.

11. Write a simple program to demonstrate implementing multiple inheritance using interfaces
12. Design an interface called **Area** with a method called compute. Implement this interface to create different classes like **Rectangle**, **Circle** and print the area of Rectangle and Circle
13. What is an interface? Differentiate between abstract class and interface.

14. Write a program for abstract class to display number of sides for different shapes
15. Discuss the uses of the final keyword with an example program demonstrating the use of final.
16. Discuss different types of errors with examples for each
17. Explain the following keywords: i) try ii) catch iii) finally
18. Define exception. Explain different types of exceptions with examples for each.
19. Write a program to demonstrate handling ArithmeticException
20. Write a program to demonstrate use of try with multiple catch statements

Module-4

1. What is thread ? Explain two ways of creating threads in JAVA with examples.
2. What do you mean by thread? Explain any one way of creating threads in JAVA with an example program.
3. Why is "main" thread important? Give reasons.
4. Describe the thread priority. How to assign and get the thread priority?
5. What is synchronization? Explain the ways of achieving synchronization in JAVA
6. Explain the delegation event model used to handle events in JAVA. What are events, event listeners, and event sources?
7. Discuss briefly the delegation event model for event handling in Java
8. Write a JAVA program to demonstrate handling of various keyboard events
9. Write a JAVA program to create two threads, one displays "Welcome to SSE" and another displays "Computer Science" for five times. Ensure the main thread is the last to stop.
10. What is synchronization? Explain with the program the role of synchronization in producer and consumer problem.

Module-5

1. What is an applet? Explain with a neat diagram the life cycle of an applet with all the methods that constitute the life cycle of an applet.
2. What is an Applet? List out the points that differentiate applets from applications.
3. Write a simple applet program to print the message “Welcome to SUIET” with suitable steps to execute the applet
4. Explain briefly the components and containers used in swings
5. Explain with syntax i) JLabel ii) JTextField iii) JButton
   iv) JComboBox v) JTable vi) JScrollPane vi) JTabbedPane