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18CS45

## Fourth Semester B.E. Degree Examination, June/July 2024 Object Oriented Concepts

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain various features of Object Oriented Paradigm. (08 Marks)
- b. "Name Space helps in preventing pollution of Global name space". Justify. (04 Marks)
- c. What is function overloading? Write a C++ program with three overloaded function to find, sum of two integers sum of two floating point number and sum of three integers. (08 Marks)

OR

- 2 a. List the difference between object oriented programming and procedure oriented programming? Mention the drawbacks of procedure oriented programming. (08 Marks)
- b. Explain inline function with an example. List out the conditions where inline function cannot be used. (04 Marks)
- c. Write a C++ program to create a student class with member variables : Stud\_id, Stud\_name and Marks for three test, Member function : to get the data using getdata( ), display data on Console using display ( ). (08 Marks)

### Module-2

- 3 a. Demonstrate array declaration, array initialization and print first n Even numbers in array using for-each loop in Java. (08 Marks)
- b. How "Compile once run anywhere" is implemented in Java? (04 Marks)
- c. Explain the structure of Java program and its keywords with example. (08 Marks)

OR

- 4 a. List and explain Java Buzzword. (08 Marks)
- b. Explain constructor and write a program for copyconstructor in C++. (04 Marks)
- c. Define polymorphism. Explain different types of polymorphism with example. (08 Marks)

### Module-3

- 5 a. Describe the various levels of access protection available for classes and their implementation with suitable example. (08 Marks)
- b. Explain usage of super in Java with example. (08 Marks)
- c. Give the importance of finalize ( ) method in garbage collection. (04 Marks)

OR

- 6 a. Elucidate the concept of inheritance and its classification using suitable sketches. (08 Marks)
- b. Write a Java program to illustrate Exception handling when a number is divided by zero and array has a negative index value. (08 Marks)
- c. When constructors are called in class hierarchy. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

**Module-4**

- 7 a. Briefly explain role of interfaces while implementing multiple inheritance in Java with example. (08 Marks)  
b. Define package. What are the steps involved in creating user defined package with example. (04 Marks)  
c. How synchronization can be achieved between threads in Java? Explain with example. (08 Marks)

**OR**

- 8 a. Define the concept of multithreading in Java and explain different phases in life-cycle of a thread. (08 Marks)  
b. Explain isAlive () and join () function in Thread with example. (04 Marks)  
c. Explain producer and consumer problem with example. (08 Marks)

**Module-5**

- 9 a. Explain the delegation Event model used to handle events in Java. What are events, event listeners and event handler in Java. (10 Marks)  
b. Explain key features of swings, write a swing program for implementing jbuttons. (10 Marks)

**OR**

- 10 a. Explain Adapter class and Inner class in detail. (10 Marks)  
b. Write a brief note on components and containers in swings. Explain JComboBox, JTextfield and Jlist with suitable code. (10 Marks)

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