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Total Number of Pages: 02

Course: B.Tech/IDD
Sub_Code: CSPC2003

3rd Semester Regular Examination: 2024-25
SUBJECT: OBJECT ORIENTED PROGRAMMING
BRANCH(S): CE, CSIT, CSE, CSEAI, CSEAI, CSEAI, CSEAI, CSEAI, CST, IT

Time: 3 Hours
Max Marks: 100
Q.Code: R458

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Answer the following questions: (2 x 10)

- Define Object-Oriented Programming. Mention two of its advantages.
- What is type casting in Java? Provide an example.
- What is the purpose of this keyword in Java?
- What are access modifiers in Java? List them.
- What are the key differences between checked and unchecked exceptions?
- Define multithreading. List two advantages of using threads.
- What is the difference between byte streams and character streams in Java?
- Differentiate between containers and components in GUI programming.
- What is the difference between AWT and Swing?
- What is the role of a Scene Builder in JavaFX?

Part-II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- Compare C++ and Java in detail.
- Explain the process of compiling and executing a Java program.
- Discuss the use of command-line arguments with an example program.
- Explain the concept of constructors in Java with an example.
- Write a Java program to demonstrate single inheritance.
- Explain the differences between static and dynamic polymorphism.
- Describe the use and advantages of wrapper classes in Java.
- Describe the life cycle of a thread in Java.
- Write a program to demonstrate the use of abstract classes in Java.
- What is an applet? Mention its life cycle stages.

- k) Differentiate between containers and components in GUI programming.
- l) Discuss the hierarchy of Swing components in detail. Write a JavaFX program to create a simple graphical user interface.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

- Q3** Write a Java program to implement a two-dimensional array and perform matrix addition. (16)
- Q4** Explain inheritance and its types in Java with examples. (16)
- Q5** Explain exception handling mechanisms in Java with suitable programs. (16)
- Q6** Write a detailed note on the collection framework and its significance in Java. (16)