**SUBJECT: Object-Oriented Programming with JAVA**

**Part-I**

Q1 Answer the following questions: (2 x 10)

a) List any two differences between C++ and Java.

b) What is typecasting in Java? Provide a simple example.

c) Differentiate between method overloading and method overriding.

d) What is the significance of the super keyword in Java?

e) List two differences between checked and unchecked exceptions.

f) Mention two advantages of using multithreading in Java.

g) Define serialization in Java.

h) Differentiate between containers and components in AWT.

i) Mention two advantages of using Swing over AWT.

j) What is the purpose of JavaFX Scene Builder?

**Part-II**

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

a) Explain the steps involved in writing, compiling, and executing a Java program.

b) Write a Java program to demonstrate the use of loops for printing the Fibonacci sequence.

c) Explain the architecture of JVM with a neat diagram.

d) Explain constructors in Java with an example program.

e) Write a Java program to demonstrate single inheritance.

f) Write a Java program to demonstrate method overloading.

g) Write a program to demonstrate the use of abstract classes.

h) Explain the life cycle of a thread with a suitable diagram.

i) Discuss the hierarchy of AWT components with examples.

j) Write a Java applet to display a message and handle an event.

k) Compare AWT and Swing with respect to their features and usability.

l) Discuss the use of event handling in Swing with examples.

**Part-III**

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

Q3 Write a Java program to perform matrix addition using two-dimensional arrays and explain the code. (16)

Q4 Write a detailed note on access modifiers in Java with their significance and

examples.
(16)Q5 Explain inheritance and its types with suitable examples in Java.
(16)

Q6 Explain the architecture and working of JavaFX Scene Builder in detail.
(16)