Registration No.:

3rd Semester Regular Examination: 2025-26
SUBJECT: OBJECT ORIENTED PROGRAMMING
BRANCH(S): CE, CSIT, CSE, CSE, CSEAI, CSEDS, CSEAIML, CST, IT
Time: 3 Hours
Max Marks: 100
Q.Code: U568
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)

a)   Define Object-Oriented Programming. Mention two of its advantages.
b)   What is type casting in Java? Provide an example.
c)   What is the purpose of this keyword in Java?
d)   What are access modifiers in Java? List them.
e)   What are the key differences between checked and unchecked exceptions?
f)   Define multithreading. List two advantages of using threads.
g)   What is the difference between byte streams and character streams in Java?
h)   Differentiate between containers and components in GUI programming.
i)   What is the difference between AWT and Swing?
j)   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)

a)   Compare C++ and Java in detail.
b)   Explain the process of compiling and executing a Java program.
c)   Discuss the use of command-line arguments with an example program.
d)   Explain the concept of constructors in Java with an example.
e)   Write a Java program to demonstrate single inheritance.
f)   Explain the differences between static and dynamic polymorphism.
g)   Describe the use and advantages of wrapper classes in Java.
h)   Describe the life cycle of a thread in Java.
i)   Write a program to demonstrate the use of abstract classes in Java.
j)   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)**