

## **MCA DEPARTMENT**



### **QUESTION BANK**

**For**

**24MCA113 –Java Programming Regulation – R24**

**Academic Year 2025 – 26**

*Prepared by*

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**SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES**  
**(AUTONOMOUS)**  
**MCA DEPARTMENT**  
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**SUBJECT NAME : Java Programming**

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**YEAR & SEM : I & I**

**Academic Year : 2025-26**

**UNIT - 1 : Fundamentals of Object-Oriented Programming & Java Evolution**

Introduction, Object-Oriented Paradigm, Basic Concepts of Object-Oriented Programming, Benefits of OOP, Applications of OOP, Java History, Java Features, How Java differs from c and c++, Java Environment, constants, Data Types, Variables, Type Conversion and Casting, Automatic Type Promotion in Expression, Arrays, Operators and Expressions, Control Statements.

**PART –A**

| Q.No. | Questions                                            | Blooms Taxonomy Level |
|-------|------------------------------------------------------|-----------------------|
| 1     | List Out the OOPs Principle                          | Remembering           |
| 2     | Write about Java Features                            | Knowledge             |
| 3     | Distinguish between Variable and Constant            | Analyzing             |
| 4     | Write about the Benefits of OOPs                     | Understanding         |
| 5     | Differentiate the two types of Type Casting          | Analyzing             |
| 6     | List out Various Java Operators                      | Remembering           |
| 7     | What is an Array                                     | Understanding         |
| 8     | Illustrate the difference between while and do while | Applying              |

**PART –B**

|   |                                                          |               |
|---|----------------------------------------------------------|---------------|
| 1 | Explain OOPs Concept in detail                           | Understanding |
| 2 | Discuss the Features of Java                             | Knowledge     |
| 3 | Describe the Benefits and Applications of OOPs           | Understanding |
| 4 | Briefly discuss the Type conversion and Casting in Java  | Analyzing     |
| 5 | Illustrate a single and two dimensional Arrays           | Applying      |
| 6 | Explain Various Java Operators and Expressions           | Understanding |
| 7 | Briefly Explain various Java Control Statements          | Analyzing     |
| 8 | Explain How C and C++ differs from Java and Java History | Understanding |

**UNIT II - : INHERITANCE AND PACKAGES**

Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class members, Constructors, Method Overloading, Static members, Inheritance, Overriding Methods, Final Variables, Methods and classes, Abstract Methods and Classes, Visibility control, Packages-Introduction, Java API Package, Using System Package, Naming Conventions, Creating Packages, Accessing a Package.

**PART –A**

|    |                                                         |               |
|----|---------------------------------------------------------|---------------|
| 1. | What is Class and Object                                | Understanding |
| 2. | Distinguish between constructor and method              | Analyzing     |
| 3. | List out types of Inheritance                           | Remembering   |
| 4. | Define Package                                          | Understanding |
| 5. | Categorize the Visibility control mechanism             | Remembering   |
| 6. | Differentiate between Method overloading and overriding | Analyzing     |
| 7. | Write about Abstract Method                             | Understanding |
| 8. | What is Abstract Class                                  | Understanding |

**PART –B**

|    |                                                                          |               |
|----|--------------------------------------------------------------------------|---------------|
| 1. | Explain how to create a class, add variables, methods and create Objects | Understanding |
| 2. | Discuss Constructor and Constructor overloading with example             | Understanding |
| 3. | Develop a Method Overloading program                                     | Evaluating    |
| 4. | Briefly Explain Inheritance and its types with example                   | Understanding |
| 5. | Explain in detail about Final and Abstract Keyword                       | Understanding |



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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------|
| 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Explain how to create and Access Packages in detail                   | Understanding |
| 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Discuss static members and Visibility Control mechanism               | Understanding |
| 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Illustrate the single and Multi level Inheritance                     | Applying      |
| 9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Identify the need for Visibility Control Mechanism                    | Analyzing     |
| <b>UNIT III -INTERFACES AND COLLECTION FRAMEWORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                       |               |
| Interfaces-Defining an Interface, Implementing Interfaces, Interfaces can be extended, Collections Overview: The Collection Interfaces – The List Interface, The Set Interface, The Collections Classes – Hash Set, Stack, Linked List, Array List, Vector, Accessing a Collection Via an Iterator, String, String Buffer Class, Utility classes – String Tokenizer, Scanner                                                                                                                                                         |                                                                       |               |
| <b>PART – A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                       |               |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Define Interface                                                      | Remembering   |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Name the collection Interfaces                                        | Understanding |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | List out various Classes in collection framework                      | Remembering   |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Illustrate a Scanner class                                            | Applying      |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Classify the ways to access a collection                              | Remembering   |
| 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Define StringTokizer                                                  | Understanding |
| 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Identify the need for Scanner Class                                   | Evaluating    |
| 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Name any four methods of String Class                                 | Remembering   |
| <b>PART –B</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                       |               |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Illustrate the purpose of Interface with Example                      | Applying      |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Write about Collection Framework Interfaces and Classes               | Understanding |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Implement a java code to create a Stack and Vector                    | Analyzing     |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Explain the various ways of accessing items from collection class     | Understanding |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Identify various methods of string Class with examples                | Evaluating    |
| 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Write a java program to display the given string is palindrome or not | Understanding |
| 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Discuss String Tokenizer with an example                              | Applying      |
| 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Write about scanner class with example                                | Applying      |
| <b>UNIT IV - EXCEPTION HANDLING, MULTITHREADING AND APPLETS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                       |               |
| Exception Handling Fundamentals, Exception types, Uncaught Exception, Using try and caught, Multiple catch Clauses, Nested try statements, throw, throws, finally, Java's Built-in Exceptions, user defined Exceptions, Multithreaded Programming – Thread States, Life Cycle of a Thread, Creating a Thread, Creating Multiple Threads, Thread Priorities. Applets:How Applets differ from Applications, Building Applet Code, Applet Life Cycle, Designing a web page, Applet tag, Adding Applet to HTML File, Running the Applet. |                                                                       |               |
| <b>PART – A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                       |               |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | List the Exception Handling keywords                                  | Remembering   |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Identify the benefits of Exceptional Handling                         | Evaluating    |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Keyword used to create a user defined exception                       | Evaluating    |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Define MultiThreaded Programming                                      | Understanding |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Write about the Thread States                                         | Understanding |
| 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Categorize the two ways to create Thread                              | Remembering   |
| 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Purpose of Applet                                                     | Analyzing     |
| 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Write about the Applet Life Cycle states                              | Understanding |
| <b>PART –B</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                       |               |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Explain Exception handling Mechanism with its 5 keywords              | Understanding |



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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------|
| 2.                                                                                                                                                                                                                                                                                                                                          | Illustrate a User Defined Exception                                                   | Applying      |
| 3.                                                                                                                                                                                                                                                                                                                                          | Explain various states of Thread with a neat diagram                                  | Analyzing     |
| 4.                                                                                                                                                                                                                                                                                                                                          | Illustrate the process of creating a Thread using two methods                         | Applying      |
| 5.                                                                                                                                                                                                                                                                                                                                          | Explain Thread Priorities with an Example                                             | Applying      |
| 6.                                                                                                                                                                                                                                                                                                                                          | Discuss various states of Applet with a neat diagram                                  | Understanding |
| 7.                                                                                                                                                                                                                                                                                                                                          | Write about how to Design a web page, Adding Applet to HTML File, Running the Applet. | Understanding |
| <b>UNIT V - EVENT HANDLING AND SWINGS</b>                                                                                                                                                                                                                                                                                                   |                                                                                       |               |
| Two Event Handling Mechanism, The Delegation Event Model, Event Classes, Sources of Events, Event Listeners Interfaces, Adapter Classes. Swings - The Origins of Swings, Swing is Built on the AWT, Swing Features , Swing Components and Containers , A Simple Swing Application, Event Handling, Creating a Swing Applet-Exploring Swing. |                                                                                       |               |
| <b>PART –A</b>                                                                                                                                                                                                                                                                                                                              |                                                                                       |               |
| 1.                                                                                                                                                                                                                                                                                                                                          | Define Event                                                                          | Remembering   |
| 2.                                                                                                                                                                                                                                                                                                                                          | Name any 3 Event Classes, Sources of Events                                           | Remembering   |
| 3.                                                                                                                                                                                                                                                                                                                                          | Define Adapter Class                                                                  | Understanding |
| 4.                                                                                                                                                                                                                                                                                                                                          | List two features of Swing                                                            | Remembering   |
| 5.                                                                                                                                                                                                                                                                                                                                          | Classify the containers                                                               | Evaluating    |
| 6.                                                                                                                                                                                                                                                                                                                                          | Difference between swing and AWT                                                      | Analyzing     |
| 7.                                                                                                                                                                                                                                                                                                                                          | List out the swing components                                                         | Remembering   |
| <b>PART –B</b>                                                                                                                                                                                                                                                                                                                              |                                                                                       |               |
| 1.                                                                                                                                                                                                                                                                                                                                          | Explain Event Handling Mechanism in detail                                            | Understanding |
| 2.                                                                                                                                                                                                                                                                                                                                          | Write about Event classes, source of Events and Events Listeners                      | Understanding |
| 3.                                                                                                                                                                                                                                                                                                                                          | Explain Swing , swing features and how it is built on awt                             | Understanding |
| 4.                                                                                                                                                                                                                                                                                                                                          | Discuss various swing components and containers                                       | Understanding |
| 5.                                                                                                                                                                                                                                                                                                                                          | Explore the swing package classes with example                                        | Applying      |
| 6.                                                                                                                                                                                                                                                                                                                                          | Illustrate any two swing package Components                                           | Applying      |