G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.
(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., INFORMATION TECHNOLOGY

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	CORE	U21IT303	JAVA WITH PROGRAMMING

Date & Session:24.04.2025/ AN   **Time : 3 Hours**   **Maximum 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	Who is credited with the creation of Java? a) Compilation to machine code b) Bytecode execution by JVM c) Dynamic typing d) Garbage collection
CO1	K2	2.	Java's platform independence is achieved through: a) Compilation to machine code b) Bytecode execution by JVM c) Dynamic typing d) Garbage collection
CO2	K1	3.	Which operator is used for bitwise XOR in Java? a) & b) | c) ^ d) ~
CO2	K2	4.	The this keyword in Java is used to: a) Refer to the current class object b) Invoke a superclass method c) Declare a static variable d) Handle exceptions
CO3	K1	5.	Which keyword is used to prevent method overriding in Java? a) static b) final c) abstract d) super
CO3	K2	6.	The throws keyword is used to: a) Handle exceptions b) Declare exceptions that a method might throw c) Create custom exceptions d) Terminate a thread
CO4	K1	7.	Which method is used to check if a thread is still running? a) isAlive() b) join() c) start() d) sleep()
CO4	K2	8.	The Delegation Event Model in Java is used for: a) Handling thread synchronization b) Managing GUI events like button clicks c) Creating custom exceptions d) Importing packages
CO5	K1	9.	Which Swing class is used to create a top-level container? a) JFrame b) JPanel c) JButton d) JLabel
CO5	K2	10.	The paint() method in Swing is used to: a) Handle button clicks b) Draw graphics on the screen c) Create threads d) Import AWT classes
Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	K3	11a.	Explain the role of bytecode in Java's architecture. How does it differ from machine code? **(OR)**
CO1	K3	11b.	Demonstrate the use of type conversion and casting with examples for primitive data types.

CO2	K3	12a.	Write a Java program using relational and logical operators to check if a number is even and positive.
			(OR)
CO2	K3	12b.	Explain class fundamentals with an example. How are objects declared and initialized?
CO3	K4	13a.	Create a subclass that overrides a superclass method. Use super to call the parent method.
			(OR)
CO3	K4	13b.	Write a Java program to demonstrate try-catch-finally blocks for handling division by zero.
CO4	K4	14a.	Write a Java program to create two threads: one prints even numbers, and the other prints odd numbers.
			(OR)
CO4	K4	14b.	Explain synchronization in Java with an example. Why is it necessary in multi-threading?
CO5	K3	15a.	Create a simple Swing application with a JFrame containing a JButton and JLabel.
			(OR)
CO5	K3	15b.	Explain the difference between AWT and Swing. Why is Swing considered lightweight?

Course Outcome	Bloom's K-level	Q. No.	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	16a.	Analyze how Java's buzzwords (e.g., Simple, Secure, Portable) are reflected in its design. Use examples
			(OR)
CO1	K3	16b.	Discuss the evolution of Java from its inception to the latest version. Highlight key milestones.
CO2	K4	17a.	Analyze the difference between selection statements (if-else, switch) and iteration statements (for, while). Provide use cases.
			(OR)
CO2	K4	17b.	How does the this keyword resolve ambiguity between instance variables and parameters in constructors?
CO3	K4	18a.	Critically evaluate the role of packages in Java. How does importing packages enhance code reusability?
			(OR)
CO3	K4	18b.	Analyze the difference between built-in exceptions and custom exceptions. When would you create your own exception class?
CO4	K5	19a.	Analyze the Java Thread Model. How do isAlive() and join() methods ensure controlled thread execution?
			(OR)
CO4	K5	19b.	Compare the two event handling mechanisms in Java. Why is the Delegation Event Model preferred over the older approach?
CO5	K5	20a.	Analyze the role of Components and Containers in Swing. How do they simplify GUI development?
			(OR)
CO5	K5	20b.	Evaluate the Origins of Swing and its key features. How does it address the limitations of AWT?