



Faculty of Engineering

End Semester Examination May 2025

EC3ET11 JAVA Programming

Programme	:	B.Tech.	Branch/Specialisation	:	EC
Duration	:	3 hours	Maximum Marks	:	60

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))				Marks	CO	BL
Q1.	The Java Development Kit (JDK) includes-			1	1	1
	<input type="radio"/> JVM only	<input checked="" type="radio"/> Compiler, JRE, and JVM				
	<input type="radio"/> JRE only	<input type="radio"/> JVM and interpreter only				
Q2.	What does <code>int[] arr = new int[5];</code> do in Java?			1	2	2
	<input checked="" type="radio"/> Creates an array of size 5 with default values	<input type="radio"/> Creates an array of size 5 with random values				
	<input type="radio"/> Creates an array of size 6	<input type="radio"/> Creates an array of size 8				
Q3.	In Java, how do you implement multiple inheritance?			1	1	1
	<input type="radio"/> Using extends keyword	<input checked="" type="radio"/> Using implements keyword				
	<input type="radio"/> Using multiple keyword	<input type="radio"/> None of these				
Q4.	What is an interface in Java?			1	2	2
	<input type="radio"/> A class with only abstract methods	<input type="radio"/> A class that cannot be extended				
	<input type="radio"/> A class with private methods only	<input checked="" type="radio"/> A blueprint for a class that defines methods without implementation				
Q5.	How do you create a String object in Java?			1	2	2
	<input type="radio"/> <code>String s = new String("Hello")</code>	<input type="radio"/> <code>String s = "Hello"</code>				
	<input checked="" type="radio"/> Both (A) and (B)	<input type="radio"/> None of the above				
Q6.	What is result of <code>"Java".replace('a','o')</code> ?			1	1	2
	<input type="radio"/> "Jova"	<input type="radio"/> "Java"				
	<input checked="" type="radio"/> "Jovo"	<input type="radio"/> "Jovoa"				
Q7.	Which of the following is NOT a type of exception in Java?			1	1	1
	<input type="radio"/> Checked exception	<input type="radio"/> Unchecked exception				
	<input type="radio"/> Runtime exception	<input checked="" type="radio"/> Logical exception				
Q8.	What is a thread in Java?			1	1	1
	<input checked="" type="radio"/> A lightweight process	<input type="radio"/> A heavy process				
	<input type="radio"/> A function	<input type="radio"/> A class				
Q9.	Which package contains the Applet class?			1	1	1
	<input type="radio"/> <code>java.awt</code>	<input type="radio"/> <code>java.util</code>				
	<input checked="" type="radio"/> <code>java.applet</code>	<input type="radio"/> <code>java.swing</code>				

Q10. What is the primary advantage of Buffered Streams?

1 1 1

- ☐ They consume more memory
 ☒ They improve performance by reducing I/O operations
 ☐ They are used only for files
 ☐ They replace the standard I/O classes

Section 2 (Answer all question(s))

Marks CO BL

Q11. What is the purpose of comments in Java? How many types of comments exist?

3 2 2

Rubric	Marks
Purpose of comments (2), Types of comments (1)	3

Q12. (a) Explain Arrays in Java, their types. How they are declared and initialized?

7 3 3

Rubric	Marks
Explanation Arrays and Type (4), Declaration and initialization (3)	7

(OR)

(b) What is type conversion and type casting in Java? Explain with examples.

Rubric	Marks
Explanation of type conversion and type casting (4) , example (3)	7

Section 3 (Answer all question(s))

Marks CO BL

Q13. What is Dynamic method dispatch in Java?

3 2 2

Rubric	Marks
Explanation (3)	3

Q14. (a) What is a Java package? Explain its types, advantages. How to create and use packages with an example?

7 2 2

Rubric	Marks
what is a java package (2)? Explain its types, advantages (2), how to create and use packages with example (3)	7

(OR)

(b) What types of inheritance in java with suitable examples for each? Why does java not support multiple inheritance through classes?

Rubric	Marks
Types of inheritance with example(4), why does java not support multiple inheritance through classes?(3)	7

Section 4 (Answer all question(s))

Marks CO BL

Q15. What is String in Java?

3 2 2

Rubric	Marks
Java String (3)	3

Q16. (a) Explain the concept of string immutability in Java. Why are string immutable? What are its advantages?

7 3 3

Rubric	Marks
Concept of string immutability (4), advantages (3)	7

(OR)

(b) Explain various methods of string class in java. Provide examples of frequently used methods.

Rubric	Marks
Methods of string class (4), example (3)	7

Section 5 (Answer all question(s))

Marks CO BL

Q17. What is an exception in Java? Differentiate between checked and unchecked exceptions.

4 2 2

Rubric	Marks
What is exception in Java (2) Difference (2)	4

Q18. (a) Write a Java program to create and start multiple threads.

6 3 3

Rubric	Marks
program (6)	6

(OR)

(b) Explain exception propagation in Java with a suitable example.

Rubric	Marks
Explanation (4), example (2)	6

Section 6 (Answer any 2 question(s))

Marks CO BL

Q19. Explain the life cycle of an Applet with a diagram.

5 3 3

Rubric	Marks
Explanation (3), Diagram (2)	5

Q20. Explain the role of Component, Container, and Panel in AWT with examples.

5 3 2

Rubric	Marks
Explanation (3) Example (2)	5

Q21. What is the significance of Print Stream class in Java? Explain with an example.

5 3 3

Rubric	Marks
What is the significance of Print Stream class in Java (3) Example(2)	5
