



PRESIDENCY UNIVERSITY

BENGALURU

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End - Term Examinations –May/June 2026

Date: 19-05-2026

Time: 09:30am – 12:30pm

School: SOCSE	Program: B.Tech	
Course Code: CSE2503	Course Name: Scalable Application Development using Java	
Semester: IV	Max Marks: 100	Weightage: 50%

CO – Levels	C01	C02	C03	C04	C05
Marks	20	20	20	20	20

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	Define synchronization. Why synchronization is used?	2 Marks	L1	C01
2.	In a background processing system, a thread must be given higher priority than others. Write the syntax to set and get thread priority.	2 Marks	L2	C01
3.	List the any five methods of FileWriter class.	2 Marks	L2	C02
4.	Define Channel in File IO. What is the purpose of java.nio package?	2 Marks	L1	C02
5.	A program inserts the values 6, 5, -1, and into a LinkedHashet. Predict the order in which they will be stored. Explain the reason.	2 Marks	L2	C03
6.	A programmer wants to execute a INSERT query and values are inserted into the table. Which JDBC method should be used and why?	2 Marks	L1	C03
7.	Write the syntax to create a generic class and use it to store Integer values.	2 Marks	L1	C04
8.	State the importance of using annotations in Java.	2 Marks	L1	C04
9.	What is HttpSession? List any two advantages of HttpSession.	2 Marks	L2	C05
10.	Which IO class is used to print formatted text on the webpage and provide its syntax?	2 Marks	L2	C05

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Compare synchronized method and synchronized block and justify which one is more efficient.	4 Marks	L2	C01
	b.	In a background processing system, a thread must be given higher priority than others. Explain the syntax to set and get thread priority.	4 Marks	L2	C01
	c.	With the help of Multithreading concept, Develop a java program to create a thread titled "primeThread" by implementing Runnable interface. "primeThread" will be responsible to print all the prime numbers from 11 to 200 in a regular interval of 0.5 seconds.	8 Marks	L3	C01

Or

12.	a.	Differentiate between wait and sleep methods .	4 Marks	L2	C01
	b.	Discuss the life cycle of a Thread.	4 Marks	L2	C01
	c.	One thread produces a message and another thread consumes it. Develop a Java program demonstrating inter-thread communication using wait() and notify().	8 Marks	L3	C01

13.	a.	Explain character stream classes in Java.	4 Marks	L2	C02
	b.	Explain the File class in Java. Discuss commonly used methods of the File class with suitable examples.	4 Marks	L2	C02
	c.	Develop a Java program to illustrate Serialization and deserialization for the Employee (id,name and salary) class.	8 Marks	L3	C02

Or

14.	a.	Explain the PrintWriter class in java.io with an example program.	4 Marks	L2	C02
	b.	Compare Character stream and Byte stream.	4 Marks	L3	C02
	c.	Develop a java program to copy the contents of one file to another using Byte oriented stream class.	8 Marks	L3	C02

15.	a.	Explain briefly Java Collection Hierarchy with neat diagram.	4 Marks	L2	C03
	b.	Develop a java program to perform any four operations on Strings using ArrayList class.	4 Marks	L2	C03

	c.	Discuss the four different types of JDBC drivers with neat diagram.	8 Marks	L2	C03
Or					
16.	a.	Differentiate between Comparator and Comparable.	4 Marks	L2	C03
	b.	Briefly explain the TreeSet interface.	4 Marks	L2	C03
	c.	A company maintains an employee database containing employee ID, name, and salary. Develop a Java JDBC program to retrieve and display all employee records from the database using a SELECT query and the ResultSet interface.	8 Marks	L3	C03

17.	a.	Explain the purpose of the @SuppressWarnings annotation with an example program.	4 Marks	L2	C04
	b.	Explain type safety in Generics with a simple example.	4 Marks	L2	C04
	c.	Explain the role of functional interfaces in lambda expressions. Develop a Java program using a lambda expression to add two integers.	8 Marks	L2	C04
Or					
18.	a.	List and explain any two built-in annotations in Java.	4 Marks	L2	C04
	b.	Explain the advantages of using Generics.	4 Marks	L2	C04
	c.	Using Lambda Expression demonstrate a java console application for custom sorting on Student class. (roll_no, Name, Branch).	8 Marks	L3	C04
Or					
19.	a.	Explain the following servlets i)Generic Servlet and ii)HttpServlet	4 Marks	L2	C05
	b.	Explain the sendRedirect method in java servlets with example code snippet.	4 Marks	L2	C05
	c.	Develop a java servlet to display the username on the browser received from the html.	8 Marks	L2	C05
Or					
20.	a.	Describe the Servlet life cycle methods with example.	4 Marks	L2	C05
	b.	Compare GET vs POST with advantages and limitations.	4 Marks	L2	C05
	c.	Explain the working of RequestDispatcher with forward and include methods in Java Servlets and illustrate with an example program.	8 Marks	L3	C05