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BCS613D

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025
Advanced Java

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	What is Collection Framework? Explain the methods defined by the following interfaces: (i) Collection (ii) List (iii) Sorted Set (iv) Queue	08	L2	CO1
	b.	Explain how collection can be accessed using an iterator with example.	08	L2	CO1
	c.	Explain Hash Map with example.	04	L2	CO1
		OR			
Q.2	a.	Explain the following collection classes by writing a Java program : (i) Linked List (ii) Array List (iii) Tree Set (iv) Hash Set	10	L2	CO1
	b.	Define Legacy Class. Explain the different Legacy classes with a program.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the string constructors with suitable programming examples.	08	L2	CO2
	b.	Explain the difference between equals and == with example.	06	L2	CO2
	c.	Demonstrate how to determine whether a specific substring exists within a given string using a programming example.	06	L2	CO2
		OR			
Q.4	a.	Explain the string comparison functions with suitable program.	08	L2	CO2
	b.	Explain indexof( ) and lastindexof( ) methods of string class with an example.	04	L2	CO2
	c.	Illustrate the following built-in methods with respect to string buffer class: (i) capacity( ) (ii) replace( ) (iii) delete( ) (iv) append( )	08	L2	CO2
		Module – 3			
Q.5	a.	Develop a Java Swing program that creates a simple GUI containing a JLabel, JTextField and a JButton. When a button is clicked, display the text entered in the text field as a message dialog.	08	L3	CO3
	b.	Explain the role of the Model-View-Controller (MVC) architecture in Swing application.	06	L2	CO3
	c.	Explain how swings are built on AWT.	06	L2	CO3

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Q.6	a.	Develop a Java swing that demonstrate event handling using Action Listener. The program should have a JButton that display a message when clicked.	08	L3	CO3
	b.	What is painting in Swing? Explain the role of the paint Component (Graphics g) method with an example.	06	L2	CO3
	c.	Outline a Java program that utilizes ImageIcon to load and display the image inside a JLabel.	06	L2	CO3

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Module – 4
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Q.7	a.	What is Servlet in Java? Explain the life cycle along with the different stages involved in its execution.	08	L2	CO4
	b.	Develop a Java Servlet program that demonstrate how parameters can be accessed from HTML.	08	L3	CO4
	c.	Explain different JSP bags with example.	04	L2	CO4

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Q.8	a.	Explain Sessions and Cookies in JSP.	06	L2	CO4
	b.	Explain the concept of session objects in JSP. Develop a JSP program to create, read and destroy session object.	08	L3	CO4
	c.	Describe the role of the Tom Cat Server in executing servlets.	06	L2	CO4

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Module – 5
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Q.9	a.	Explain the different steps involved in JDBC with a code snippet.	12	L2	CO5
	b.	What is connection pooling in Java? Explain its working with a neat diagram and provide relevant code snippets.	08	L2	CO5

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Q.10	a.	What is transaction processing in JDBC? Explain its importance and demonstrate its implementation.	10	L2	CO5
	b.	What are Scrollable ResultSet and Update ResultSet in JDBC? Explain its features and provide code examples for each.	10	L2	CO5

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