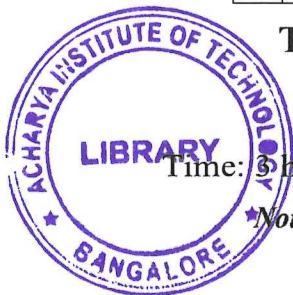


CBCS SCHEME

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MMCB311F



Third Semester MCA Degree Examination, June/July 2026 Web Programming using 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. Explain the basics of web programming. Describe the difference between static and dynamic web pages with examples.	10	L2	CO1
	b. Explain the structure of an HTML document. Illustrate the use of important HTML tags for layout and linking web content with suitable examples.	10	L1	CO1
OR				
Q.2	a. Write short notes on: (i) Cascading Style Sheets (CSS) - its purpose and types of style application (ii) JavaScript - features and role in client-side validation.	10	L1	CO1
	b. Define Java EE. Explain the need for Java EE in Enterprise web applications with neat diagram.	10	L2	CO1
Module – 2				
Q.3	a. What is the Deployment Descriptor (web.xml)? Explain its structure with suitable examples. Describe the advantages of using web.xml and mention when annotation-based configuration can be used instead.	10	L2	CO2
	b. Describe the process of handling client requests and responses in servlets. Explain how form data is retrieved and how request headers and parameters are processed.	10	L2	CO2
OR				
Q.4	a. Explain the concept of Session Management in servlets and describe various session tracking methods - Cookies, Hidden Fields, URL Rewriting, and HttpSession with their advantages and disadvantages.	10	L2	CO2
	b. Discuss the role of HTTP request and response objects in servlets. Explain with examples how to read headers, send response headers, and set content type and refresh properties.	10	L2	CO2
Module – 3				
Q.5	a. Explain the architecture of JavaServer Pages (JSP) in detail. Draw and describe the JSP lifecycle, highlighting translation, compilation, execution, and reuse phases with an appropriate diagram.	10	L3	CO3
	b. Define and explain JSP Implicit Objects. List all nine implicit objects with their corresponding classes, purposes, and scope, along with suitable examples.	10	L3	CO3

OR

Q.6	a.	Explain the three types of Scripting Elements used in JSP (Declarations, Scriptlets, and Expressions) with syntax and examples demonstrating their use.	10	L3	CO3
	b.	Discuss the role of the <%@ page %> directive in JSP. Explain its important attributes such as contentType, import, session, buffer, and errorPage.	10	L3	CO3
Module – 4					
Q.7	a.	Discuss the types of JDBC drivers. Explain Type-1, Type-2, Type-3, and Type-4 drivers with advantages and disadvantages.	10	L2	CO4
	b.	Explain the process of establishing a database connection using JDBC.	10	L3	CO4
OR					
Q.8	a.	Explain the ResultSet interface in detail. Discuss its types and methods for retrieving data.	10	L3	CO4
	b.	Explain error handling and exception management in JDBC. Describe the use of try-catch-finally and SQLException.	10	L3	CO4
Module – 5					
Q.9	a.	Explain the MVC (Model-View-Controller) architecture pattern used in web applications. Describe the responsibilities of Model, View, and Controller components.	10	L3	CO5
	b.	Discuss the importance of MVC architecture in system design. Explain aspects such as separation of concerns, reusability, scalability, and testability.	10	L3	CO5
OR					
Q.10	a.	Explain Spring MVC Framework. Describe its architecture and the role of DispatcherServlet as a front controller.	10	L4	CO5
	b.	Design a simple Spring MVC “Hello World” web application. Explain the structure of the project, controller class, model class, and view (JSP) file.	10	L4	CO5
