Reg. No.																

Question Paper Code	13957

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2025

Fifth Semester

Information Technology

20ITPC501 - WEB TECHNOLOGY

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Which protocol is primarily responsible for transferring web pages on the Internet? (a) FTP (b) SMTP (c) HTTP (d) SNMP	1	K1	CO1
2.	A web developer wants to make a webpage layout adjust automatically based on screen size. Which combination of CSS3 features should be used to achieve this? (a) Floats and absolute positioning (b) Inline styles and overflow property (c) Media queries and viewport meta tag (d) Transitions and keyframes	1	K1	CO1
3.	Which of the following statements correctly describes JavaScript's relationship with HTML? (a) JavaScript is used to define the structure of a web page. (b) JavaScript is used to style the appearance of web elements. (c) JavaScript adds interactivity and dynamic behavior to HTML pages. (d) JavaScript replaces the need for CSS in web design.	1	K1	CO2
4.	Which of the following statements correctly describes Two-Way Data Binding in Angular 6? (a) It allows data to flow only from the component to the view. (b) It allows data to flow only from the view to the component. (c) It synchronizes data between the component and the view in both directions. (d) It is used only for event handling in templates.	1	K1	CO2
5.	Which of the following correctly describes the Document Object Model (DOM) in a web browser? (a) The DOM is a programming language used to create web pages. (b) The DOM represents the structure of a web document as a hierarchical tree of objects. (c) The DOM handles server-side requests in a web application. (d) The DOM is a database used to store client-side data permanently.	1	K1	CO3
6.	A developer wants to maintain a user's login information across multiple requests in a Java Servlet. Which of the following techniques should be applied? (a) Use the doGet() method only. (b) Store data in a local variable within the servlet. (c) Implement HTTP sessions or cookies to track user data. (d) Use the DOM window object to store session details.	1	K1	CO3
7.	Which of the following best describes the role of JavaBeans in JSP applications? (a) To define server-side scripting logic within JSP pages (b) To encapsulate business logic and provide reusable components accessible from JSP pages (c) To handle client-side form validations (d) To manage database connectivity directly within HTML pages	1	K1	CO4
8.	A JSP page retrieves XML data from a database and applies an XSLT style sheet to transform it before displaying it in the browser. Which sequence of technologies is being correctly applied in this scenario? (a) JSP → JDBC → SAX → XSLT (b) JSP → DOM → XSLT → HTML (c) JDBC → JSP → XML → CSS (d) JSP → JavaBeans → XPATH → HTML	1	K1	CO4

9.	In AJAX Client-Server architecture, what is the primary role of the XMLHttpRequest object? (a) To define the structure of web services using XML schema (b) To send and receive data asynchronously between the client and the server (c) To convert Java objects into XML format for SOAP messages (d) To store Java objects as files on the server	*1*	*K1*	*CO5*
10.	A developer wants to create a Java web service that can be accessed by a client over HTTP using SOAP messages. Which combination of technologies should they apply? (a) JAX-RPC for service creation and WSDL for service description (b) AJAX for client communication and XML Schema for service invocation (c) Java Servlets for service creation and JSON for message transfer (d) XMLHTTP Request and RESTful APIs for service definition	*1*	*K1*	*CO5*

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

11.	Define Web Server. Give one example.	*2*	*K1*	*CO1*
12.	How will you create a password field in a HTML form?	*2*	*K1*	*CO1*
13.	Outline the purpose of using built-in objects in JavaScript.	*2*	*K2*	*CO2*
14.	Differentiate one-way data binding from two-way data binding.	*2*	*K2*	*CO2*
15.	Write the difference between intrinsic event handling and DOM event handling in web browsers.	*2*	*K1*	*CO3*
16.	Interpret about the URL rewriting in servlet.	*2*	*K2*	*CO3*
17.	Illustrate how JavaBeans can be used within a JSP page?	*2*	*K2*	*CO4*
18.	State the purpose of XML namespaces in representing web data.	*2*	*K1*	*CO4*
19.	List the features of JAX-RPC in web services.	*2*	*K1*	*CO5*
20.	Infer the purpose of WSDL in describing web services.	*2*	*K2*	*CO5*
21.	Define a call-back function in AJAX.	*2*	*K1*	*CO5*
22.	How a servlet can retrieve and process parameter data from an HTML form?	*2*	*K2*	*CO3*

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Describe the fundamental elements of HTML5.0 used for creating web pages.	*11*	*K2*	*CO1*
		OR			
	b)	Illustrate the concept of cascading and inheritance in CSS3.0 with suitable example.	*11*	*K2*	*CO1*
24.	a)	Develop a JavaScript program to calculate and display the average marks of students using functions, arrays, and built-in objects.	*11*	*K3*	*CO2*
		OR			
	b)	Develop an Angular 6 component that demonstrates event binding and property binding for a login form.	*11*	*K3*	*CO2*
25.	a)	Apply the document object model (DOM) to enable dynamic interaction between web page elements and user actions.	*11*	*K3*	*CO3*
		OR			
	b)	Construct the model-view-controller paradigm and explain how JSP supports it?	*11*	*K3*	*CO3*
26.	a)	Discuss how JSP and Servlets work together in building a dynamic web application?	*11*	*K2*	*CO4*
		OR			

	b)	Describe how DOM-based XML processing differs from SAX-based event-oriented parsing in terms of memory usage, performance, and data accessibility?	*11*	*K2*	*CO4*
27.	a)	Apply the concepts of JAX-RPC Web Services to develop a client application for a simple online calculator.	*11*	*K3*	*CO5*
		OR			
	b)	Develop an application to perform communication between a client and a web service using SOAP.	*11*	*K3*	*CO5*
28.	a)	Construct the AJAX client-server architecture and discuss the XML HTTP Request object and callback methods to achieve asynchronous communication between browser and server.	*11*	*K3*	*CO5*
		OR			
	b)	Apply the concept of WSDL and XML Schema together to define and validate web service interfaces.	*11*	*K3*	*CO5*