

WEB TECHNOLOGIES

Subject Code: CS504PC

Regulations : R18 - JNTUH

Class: III Year B.Tech CSE I Semester



Department of Computer Science and Engineering

Bharat Institute of Engineering and Technology

Ibrahimpatnam-501510,Hyderabad



WEB TECHNOLOGIES (CS504PC)
B.Tech. III Year I Sem
COURSE PLANNER

I. COURSE PURPOSE:

The focus in this **course** is on the World Wide **Web** as a platform for interactive applications, content publishing and social services. The **development** of **web**-based applications requires knowledge about the underlying **technology** and the formats and standards the **web** is based upon.

II. PRE-REQUISITES:

Fundamental programming skills to look for in a **web** developer training program include HTML, CSS and JavaScript (the basic building blocks of most websites). Hot programming skills for back-end **web** development positions include PHP, XML and SQL.

III. COURSE OBJECTIVES:

1.To introduce PHP language for server-side scripting
2. To introduce XML and processing of XML Data with Java
3. To introduce Server-side programming with Java Servlets and JSP
4. To introduce Client-side scripting with Javascript and AJAX.

IV. COURSE COUCOMES:

S. No.	Course Outcomes	Bloom's Taxonomy Levels	PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES
4.	gain knowledge of client-side scripting, validation of forms and AJAX programming	L1-Remembering, L2-Understanding, L5-Evaluating	PO1,PO6,PO9PO12, P O1-PSO3
5.	understand server-side scripting with PHP	L3-Applying,	PO1PO6,PO9,PO12,



	language	L5-Evaluating	PSO1-PSO3
6.	understand what is XML and how to parse and use XML Data with Java	L4-Analyzing, L5-Evaluating	PO1-PO6,PO9 PO12,PSO1-PSO3
4	To introduce Server-side programming with Java Servlets and JSP	L4-Analyzing, L6 Creating, L1 Remembering	PO1-PO6,PO9 PO12,PSO1-PSO3
5	gain knowledge of client-side scripting, validation of forms and AJA programming	L6-Creating, L1-Knowledge and L3-Applying	PO1-PO6,PO9 PO12,PSO1-PSO3

V. COURSE CONTENT:

UNIT- I

Introduction to PHP: Declaring variables, data types, arrays, strings, operators, expressions, control structures, functions, Reading data from web form controls like text boxes, radio buttons, lists etc., Handling File Uploads. Connecting to database (MySQL as reference), executing simple queries, handling results, Handling sessions and cookies. File Handling in PHP: File operations like opening, closing, reading, writing, appending, deleting etc. on text and binary files, listing directories.

UNIT- II

HTML Common tags- List, Tables, images, forms, Frames; Cascading Style sheets; XML: Introduction to XML, Defining XML tags, their attributes and values, Document Type Definition, XML Schemes, Document Object Model, XHTML Parsing XML Data – DOM and SAX Parsers in java.

UNIT - III

Introduction to Servlets: Common Gateway Interface (CGI), Life cycle of a Servlet, deploying a servlet, The Servlet API, Reading Servlet parameters, Reading Initialization parameters Handling Http Request & Responses, Using Cookies and Sessions, connecting to a database using JDBC.

UNIT - IV

Introduction to JSP: The Anatomy of a JSP Page, JSP Processing, Declarations, Directives, Expressions, Code Snippets, implicit objects, Using Beans in JSP Pages, Using Cookies and session for session tracking, connecting to database in JSP.

UNIT - V

Client-side Scripting: Introduction to Javascript, Javascript language – declaring variables, scope of variables, functions. event handlers (onclick, onsubmit etc.), Document Object Model, Form Validation.

TEXT BOOK:

1. Web Technologies, Uttam K Roy, Oxford University Press
2. The Complete Reference PHP – Steven Holzner, Tata McGraw-Hill

REFERENCE BOOKS:

- R1. Web Programming, building internet applications, Chris Bates 2nd edition, Wiley Dreamtech
 R2. Java Server Pages —Hans Bergsten, SPD O'Reilly,
 R3. Java Script, D.Flanagan
 R4. Beginning Web Programming-Jon Duckett WROX.
 R5. Programming world wide web, R.W.Sebesta, Fourth Edition, Pearson.
 R6. Internet and World Wide Web — How to program. Dietel and Nieto, Pearson.

VI. LESSON PLAN:

S. No.	No. of Periods	Subject Topics / Sub-Topics	Course Learning Outcomes	Teaching methodology	References
					Text Books Journals Websites
1	1	Web servers and web clients HTML	Understand web servers	BB,PPT	T1, R2
2	1	HTML5 ,CSS3, Javascript	Understand HTML	BB,PPT	T1, R2
3	1	PHP an introduction	Understand PHP	BB,PPT	T1, R2
4	1	PHP variable, Datatypes,arrays, strings,operators	Understand data types	BB,PPT	T1, R2
5	1	PHP expressions,control structures & functions	Understand expressions, control structures.	BB,PPT	T1, R2
6	1	Web forms with form controllers	Understand web forms	BB,PPT	T1, R2
7	1	File upload, introduction to my SQL	Demonstrate file upload, mysql	BB,PPT	T1, R2
8	1	Executing queries, handling result sets	Understand backend.	BB,PPT	T1, R2
	1	Sessions and cookies	Understand sessions and cookies	BB,PPT	T1, R2

9					
1	1	Diskfiles:opening,closing , Reding&writing,appendi ng, deleting	Understand file operations	BB,PPT	T1, R2
1	1	Test and binary files	Understand Binary files.	BB,PPT	T1, R2
1	1	Directory Listing	Demonstrate Directory listing.	BB,PPT	T1, R2
13	1	Introduction to XML	Understand XML.	BB,PPT	T1, R3
14	1	MOCK TEST-I		BB,PPT	T1, R3
15	1	XML tags,attributes and values	Understand XML tags.	BB,PPT	T1, R3
16	1	Tutorial/bridge class		BB,PPT	T1, R3
17	1	XML DTD	Understand Parsing	BB,PPT	T1, R3
18	1	XML Schemas	Understand Schemas	BB,PPT	T1, R3
19	1	XML DOM	Understand DOM.	BB,PPT	T1, R3
20	1	XHTML	Understand XHTML	BB,PPT	T1
21	1	XML data parsing	Understand parsing	BB,PPT	T1
22	1	Java XML DOM parser	Understand DOM parser.	BB,PPT	T1

23	1	Java XML SAX parser	Understand SAX parser.	BB,PPT	T1
24	1	Other XML parsers	Understand parsers.	BB,PPT	T1
25	1	Introduction to Java servlets	Understand java servlets.	BB,PPT	T1, R2
26	1	CGI	Understand CGI.	BB,PPT	T1,R2
27	1	Servlet life cycle	Understand servlet lifecycle.	BB,PPT	T1,R2
28	1	Deploying a servlet	Demonstrate deployment of servlet.	BB,PPT	T1,R2
29	1	Deploying a servlet	Demonstrate deployment of servlet.	BB,PPT	T1,R2
30		The Servlet API	Understand Servlet API.	BB,PPT	T1,R2
31	1	Reading Servlet parameters	Demonstrate reading servlet parameter.	BB,PPT	T1,R2
32	1	Reading Initialization parameters	Demonstrate initializing parameters.	BB,PPT	T1,R2
33	1	Http Request and http Response	Understand HTTP Protocols.	BB,PPT	T1,R2
34	1	Using Cookies	Understand Cookies.	BB,PPT	T1,R2
35	1	Using Sessions	Understand Sessions.	BB,PPT	T1,R2
36	1	Connecting to database using JDBC	Demonstrate JDBC Connectivity.	BB,PPT	T1,R2
37	1	JDBC operations	Understand JDBC operations.	BB,PPT	T1,R2
38	1	JDBC Operations	Understand JDBC operations.	BB,PPT	T1,R2

39	1	Introduction to JSP	Understand JSP.	BB,PPT	T1,R3
40	1	JSP page Anatomy	Understand Page anatomy.	BB,PPT	T1,R3
41	1	JSP page Anatomy	Understand Page anatomy.	BB,PPT	T1,R3
42	1	JSP page Anatomy	Understand Page anatomy.	BB,PPT	T1,R3
43	1	JSP processing	Understand JSP Processing	BB,PPT	T1,R3
44	1	JSP processing	Understand JSP Processing	BB,PPT	T1,R3
45	1	Guest lecturers		BB,PPT	T1,R3
46	1	Declaratives	Understand Declaratives	BB,PPT	T1,R3
47	1	Directives	Understand Declaratives	BB,PPT	T1,R3
48	1	Expressions	Understand Expressions	BB,PPT	T1,R3
49	1	Code Snippets	Demonstrate Code.	BB,PPT	T1,R3
50	1	Implicit objects using Beans in JSP page	Understand Beans	BB,PPT	T1,R3
51	1	Using Cookies	Understand Cookies	BB,PPT	T1,R3
52	1	Using Sessions for Session Tracking	Understand Sessions	BB,PPT	T1,R3
53	1	Connecting to Database in JSP	Demonstrate Database connectivity	BB,PPT	T1,R3
54	1	Client side scripting	Understand Client side scripting	BB,PPT	T1

55	1	Introduction to java script	Understand Javascript	BB,PPT	T1
56	1	Java script language	Understand Javascript	BB,PPT	T1
57	1	MOCK TEST-2		BB,PPT	T1
58	1	Declaring variables	Understanding variable declaration	BB,PPT	T1
59	1	Scope of variables	Explain scope of variable	BB,PPT	T1
60	1	Functions	Define functions	BB,PPT	T1
61	1	BRIDGE CLASS		BB,PPT	T1
62	1	Event handlers(On Click,On Submit etc.)	Understand event handlers	BB,PPT	T1
63	1	JS DOM	Understand DOM	BB,PPT	T1
64	1	FormValidation	Demonstrate form validation	BB,PPT	T1
65	1	Simple AJAX application	Demonstrate simple AJAX application	BB,PPT	T1
66	1	Simple AJAX application	Demonstrate simple AJAX application	BB,PPT	T1

TEXT BOOK:

3. Web Technologies, Uttam K Roy, Oxford University Press
4. The Complete Reference PHP — Steven Holzner, Tata McGraw-Hill

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 R6. Internet and World Wide Web – How to program. Dietel and Nieto, Pearson.

Department of Computer Science and Engineering	COURSE OUTCOMES ASSESSMENT	Academic Year: 2020-2021
		Semester: ODD / EVEN

VII. HOW PROGRAM OUTCOMES ARE ASSESSED:

Program Outcomes (PO)		Level	Proficiency assessed by
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems related to Computer Science and Engineering.	2.5	Lectures, Assignments, Exams
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems related to Computer Science and Engineering and reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	1.5	Lectures, Assignments, Exams
PO3	Design/development of solutions: Design solutions for complex engineering problems related to Computer Science and Engineering and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.	3	Lectures, Assignments, Exams
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.	1.5	Lectures, Assignments, Exams
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	2.5	Lectures, Assignments, Exams
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the Computer	1	Lectures, Assignments, Exams

Program Outcomes (PO)		Level	Proficiency assessed by
	Science and Engineering professional engineering practice.		
PO7	Environment and sustainability: Understand the impact of the Computer Science and Engineering professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	-	
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	-	
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	1.5	Lectures, Assignments, Exams
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	2.0	Lectures, Assignments, Exams
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	1.5	Lectures, Assignments, Exams
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.	2.5	Lectures, Assignments, Exams

VIII. HOW PROGRAM SPECIFIC OUTCOMES ARE ASSESSED:

Program Specific Outcomes (PSO)		Level	Proficiency assessed by
O1	Foundation of mathematical concepts: To use mathematical methodologies to crack problem using suitable mathematical analysis, data structure and suitable algorithm.	2.5	Lectures, Assignments, Exams
PSO2	Foundation of Computer System: The ability to interpret the fundamental concepts and methodology of computer systems. Students can understand the functionality of hardware and software aspects of computer systems.	3.0	Lectures, Assignments, Exams
PSO3	Foundations of Software development: The ability to grasp the software development lifecycle and methodologies of software systems. Possess competent skills and knowledge of software design process. Familiarity and practical proficiency with a broad area of programming concepts and provide new ideas and innovations towards research.	2.0	Lectures, Assignments, Exams

**MAPPING COURSE OUTCOMES LEADING TO THE ACHIEVEMENT
OF PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES:**

Course Outcomes	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	2	1	2	1	-	-	2	2	2	3	1	3	2
2	2	2	3	2	3	1	-	-	1	2	2	3	2	2	2
3	2	1	2	1	2	1	-	-	2	2	2	2	1	2	2
4	3	2	3	2	2	1	-	-	1	1	1	2	3	3	2
5	2	1	2	2	2	1	-	-	2	2	1	1	1	2	2
AVG	2.4	1.4	2.5	1.6	2.5	1	-	-	1.6	1.8	1.6	2.2	1.6	2.4	2

DESCRIPTIVE QUESTIONS

UNIT-1 Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
Q1. Explain with an example program how to connect to a SQL Server database from a PHP script.	Understand	1
Q2. Write a PHP code to validate the form consisting of a username, password and email fields.	Understand	1
Q3. Write the structure of PHP script with an example.	Knowledge	1
Q4. Discuss different types of Conditional statements in PHP.	Knowledge	1
Q5. Write a PHP program to demonstrate the passing a variable by reference.	Analyze	1

UNIT-2 Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
Q1. Which HTTP method is non-idempotent?	Understanding	2
Q2. Explain difference between GET and POST method?	Knowledge	2
Q3. List out MIME Types?	Understand	2
Q4. List the differences between Client side JavaScript Server side JavaScript?	Analyze	2
Q5. Define how to create a Date Object?	Understand	2

UNIT-3

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
Q1. Discuss the web application and its directory structure.	Understand	3
Q2. list and briefly explain the methods defined in the HttpServletRequest.	Knowledge	3
Q3. list and explain different types of JDBC drivers.	Analysis	3
Q4. Build a servlet program to illustrate parameter reading and initialization parameters.	Knowledge	3
Q5. List out the difference between web server and application server.	Understand	3

UNIT-4

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
1.Explain about JSP	Knowledge	4
2.Explain briefly about data base connectivity by using JSP	Knowledge	4
3.Explain about cookies and sessions	Knowledge	4
4.Briefly explain about session tracking in JSP	Understand	4
5.Explain about API,with an example program	Understand	4

UNIT-5

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
1.Explain about simple AJAX application	Knowledge	5
2.Explain about form validation	Understand	5
3.Eplainbriefly aboy DOM and SAX in javascript	Analysis	5
4.Explain about client side programming using JAVA script with simple example	Understand	5
5.Explain about event handling	Understand	5

Fill in the blanks:

- 1) Function used to create an array is _____
- 2) Function used to create a session is _____
- 3) Function used to create cookie is _____
- 4) Function used to start session is _____
- 5) Function used to start session is _____
- 6) Explain about a file in php?
- 7) Brief various file modes.
- 8) Explain about inbuilt functions
- 9) Function used to destroy session is _____
- 10) Function used to set a cookie is _____
- 11) The _____ method is called for each HTTP request.
- 12) _____ jar file contains the classes and interfaces that are needed to build servlets.
- 13) _____ is valuable for tracking user activities
- 14) JSP stands for _____.
- 15) JDBC stands for _____

1. Which web server that supports development of servlet and JSP is []
 A) Apache (Jakarta) Tomcat B) Macromedia JRun C) Caucho Resin D) All
2. Which of the following don't need to redeploy the application if the code is modified []
 A) JSP Servlet Both D) None
3. For writing any data to the buffer, JSP provides an implicit object named []
 A) response page session D) out
4. Which of the following is a JSP expression tag []
 A) `<%! %>` `<%-- --%>` `<%= %>` `<% %>`
5. Which statement is used to execute parametric query []
 A) PreparedStatement CallableStatement C) Both D) None
6. Which of the following driver type is JDBC-ODBC bridge []
 A) type2 type 1 type 3 D) type 4
7. Tag used in JSP bean development is []
 A) `jsp:useBean` B) `jsp:setProperty` `jsp:getProperty` D) All
8. Which method of servlet is called to process the HTTP request []
 A) `init()` B) `service()` `destroy()` D) All
9. To get the servlet environment information which of following object is used []
 A) `ServletResponse` `ServletConfig` `ServletContext` D) All



10. In which of the following request parameters are included as part of the URL that is sent to the Web[]

A) HTTP POST

B) HTTP GET C) Both

D) None

WEBSITES:

1. W3schools.com

LIST OF TOPICS FOR STUDENT SEMINARS (Optional):

1. Application Programming Interface
2. Remote Method Invocation
3. Life cycle of Servlet
4. Client side Scripting Languages
5. Server Side scripting languages