



WEB PROGRAMMING (IT504PC)

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. Understand the technologies used in Web Programming.
2. Know the importance of object-oriented aspects of Scripting.
3. Understand creating database connectivity using JDBC.
4. Learn the concepts of web-based application using sockets.

IV. COURSE COUCOMES:

S. No.	Course Outcomes	Bloom's Taxonomy Levels	PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES
1.	Design web pages.	L1-Remembering, L2-Understanding, L5-Evaluating	PO1,PO6,PO9PO12, P O1-PSO3
2.	Use technologies of Web Programming.	L3-Applying, L5-Evaluating	PO1PO6,PO9,PO12, PSO1-PSO3
3.	Apply object-oriented aspects to Scripting.	L4-Analyzing, L5-Evaluating	PO1-PO6,PO9 PO12,PSO1-PSO3
4	Create databases with connectivity using JDBC.	L4-Analyzing, L6 Creating, L1 Remembering	PO1-PO6,PO9 PO12,PSO1-PSO3
5	Build web-based application using sockets.	L6-Creating, L1-Knowledge and L3-Applying	PO1-PO6,PO9 PO12,PSO1-PSO3

V. COURSE CONTENT:

UNIT- I SCRIPTING:

Web page Designing using HTML, Scripting basics- Client side and server side scripting. Java Script-Object, names, literals, operators and expressions- statements and features- events - windows -documents - frames - data types - built-in functions- Browser object model - Verifying forms.-HTML5-CSS3- HTML 5 canvas - Web site creation using tools

UNIT- II JAVA:-

Introduction to object-oriented programming-Features of Java – Data types, variables and arrays, Operators – Control statements – Classes and Methods – Inheritance. Packages and Interfaces –Exception Handling – Multithreaded Programming – Input/Output – Files – Utility Classes – String Handling.

UNIT - III JDBC:-

JDBC Overview – JDBC implementation – Connection class – Statements - Catching Database Results, handling database Queries. Networking– InetAddress class – URL class- TCP sockets – UDP-sockets, Java Beans –RMI.

UNIT - IV APPLETS:

Java applets- Life cycle of an applet – Adding images to an applet – Adding sound to an applet. Passing parameters to an applet. Event Handling. Introducing AWT: Working with Windows Graphics and Text. Using AWT Controls, Layout Managers and Menus. Servlet – life cycle of a servlet. The Servlet API, Handling HTTP Request and Response, using Cookies, Session Tracking. Introduction to JSP.

UNIT - V XML AND WEB SERVICES:

Xml – Introduction-Form Navigation-XML Documents- XSL – XSLT- Web services-UDDI-WSDL-Java web services – Web resources

TEXTBOOKS:

- 1.Harvey Deitel, Abbey Deitel, Internet and World Wide Web: How To Program 5th Edition.
2. Herbert Schildt, Java - The Complete Reference, 7th Edition. Tata McGraw- Hill Edition.
3. Michael Morrison XML Unleashed Tech media SAMS.

REFERENCES:

1. John Pollock, Javascript - A Beginners Guide, 3rd Edition –– Tata McGraw-Hill Edition.
2. Keyur Shah, Gateway to Java Programmer Sun Certification, Tata McGraw Hill, 2002.

VI. LESSON PLAN:

S. NO.	Unit	Week	Topics to be covered	Blowup	Topic Links	Course Learning Outcomes	Teaching Methodology	References
1	2	1	JAVA: Introduction to object-oriented programming	OOPs concept	https://docs.google.com/presentation/d/17-llQaCpxAAiwukp8p-O3fAXFYFJl-bW/edit?usp=sharing&oid=113711175195589922192&rtpof=true&sd=true	Understand	Chalk and talk	TI
2	2		Features of Java - Datatypes	features,types of datatypes definition and example	https://docs.google.com/presentation/d/17-llQaCpxAAiwukp8p-O3fAXFYFJl-bW/edit?usp=sharing&oid=113711175195589922192&rtpof=true&sd=true	Understand	Chalk and talk	TI
3	2		Variables and Arrays	types of variables ,types of arrays	https://docs.google.com/presentation/d/17-llQaCpxAAiwukp8p-O3fAXFYFJl-bW/edit?usp=sharing&oid=113711175195589922192&rtpof=true&sd=true	Understand	Chalk and talk	TI
4	2		Operators	types of operators	https://docs.google.com/presentation/d/17-llQaCpxAAiwukp8p-O3fAXFYFJl-bW/edit?usp=sharing&oid=113711175195589922192&rtpof=true&sd=true	Understand	Chalk and talk	TI
5	2		Control statements	control statements in Java	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
6	2		Classes and Methods	classes in java and methods used in java	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
7	2		3	Inheritance, Packages and Interfaces	definition of inheritance ,types pacakges in java ,types and interfaces in java ,types	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk

8	2		Exception Handling	exception handling in java,types	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
10			Mock test-1			Understand	Chalk and talk	TI
9	2	4	Multithreaded Programming	multithreading in java,methods to implement,example	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
11	2		Input/Output, Files	input and output files in java,file system in java	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
12	2		Utility Classes, String Handling	utility classes in java,types,String handling in java	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
13	3		JDBC Overview	JDBC overview	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
14	3	5	JDBC implementation, Connection class, Statements	JDBC implementation and connection class statements for connection classes	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
15	3		Catching database results ,handling database queries,Networking-Inet address class	database handling-queries ,connection,networking using java by Inet address class	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
16	3	6	URL class, TCP sockets, UDP sockets	URL class,TCP sockets ,UDP sockets	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
16	3		Java Beans, RMI	Java beans ,Remote method Invocation	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
17	1		SCRIPTING. Web page Designing using HTML	Scripting ,web page designing using HTML,tags used	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
18	1		Scripting basics-Client side and server side scripting	Client side and server side scripting	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI

19	1	7	Java ScriptObject	Java script objects,types ,functions	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
20	1		Names, literals, operators and expressions	Names,literals,types of operators and expressions	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
21	1	8	Statements and features	statements and features	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
22	1		Events - windows - documents	types of events ,windows and documents	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
23	1		Frames - data types - built-in functions- Browser object model	frames and types ,datatypes ,built in function-types ,browser object model	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
24	1	9	Verifying forms.	forms-types and verifying forms	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
25			Mock test-2					
26	1		HTML5	HTML5 introduction	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
27	1	10	CSS3	CSS3 introduction	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
28	1		HTML 5 canvas - Web site creation using tools.	HTML5 canvas - website creation using tools	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
29	4		APPLETS Java applets- Life cycle of an applet	Applets Java applets -Lifecycle phases	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
30	4	11	Adding images to an applet – Adding sound to an applet	images in applet,sound in applet	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI

31	4		Passing parameters to an applet. Event Handling	Passing parameter to applet, Event handling		Understand	Chalk and talk	TI
32	4		Introducing AWT: Working with Windows Graphics and Text.	Introduction to AWT, Working with windows, graphics and text	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
33	4		Using AWT Controls, Layout Managers and Menus	AWT controls, types, Layout managers, Menus	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
34	4	12	Servlet – life cycle of a servlet. The Servlet API	Servlet- introduction, lifecycle, Servlet API	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
35	4		Handling HTTP Request and Response, using Cookies,	Handling HTTP Request and Response, Using cookies	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
36	4		Session Tracking. Introduction to JSP.	Session tracking and JSP- introduction	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
37	5	13	XML AND WEB SERVICES Xml – Introduction	XML- introduction, Web services- Introduction	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
38	5		Form Navigation- XML Documents	form navigation- xml documents - types	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
39	5		XSL – XSLT- Web services-UDDI- WSDL	XSL, XSLT, Web services, UDDI, WSDL	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
40	5	14	Java web services – Web resources.	Java web services and method for web services, web resources	https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI
41			presentations		https://drive.google.com/file/d/1X7EgF69m6pAi8siQ2MW0-N3hVVJV2i9t/view?usp=sharing	Understand	Chalk and talk	TI

VI. 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 Science and Engineering professional engineering practice.	1	Lectures, Assignments, Exams
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	2.0	Lectures, Assignments,



Program Outcomes (PO)		Level	Proficiency assessed by
	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.		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

VII. HOW PROGRAM SPECIFIC OUTCOMES ARE ASSESSED:

Program Specific Outcomes (PSO)		Level	Proficiency assessed by
PSO1	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 the elements of JavaScript	Understand	1
Q2. Explain brief about HTML with an example code.	Understand	1
Q3. Discuss browser object model.	Knowledge	1
Q4. Explain about CSS with an example program.	Knowledge	1
Q5. Explain documents,frames,data types in JavaScript.	Analyze	1

UNIT-2

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
Q1. Explain about exception handling in java with an example program.	Understanding	2
Q2. Explain about multi threading in java with an example program.	Knowledge	2
Q3. Discuss inheritance, interfaces and packages in java	Understand	2
Q4. Explain about utility classes in java	Analyze	2
Q5. Explain about string handling in java	Understand	2

UNIT-3

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
Q1.Explain with sample code about TCP and UDP Sockets.	Understand	3
Q2. Explain the implementation of JDBC	Knowledge	3
Q3. Explain about Remote Method Invocation in Java with an example program	Analysis	3
Q4. Discuss about Java Beans with sample code.	Knowledge	3
Q5. Explain how to handle Database Queries and results	Understand	3

UNIT-4

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
1. Explain briefly life cycle of applet with a neat diagram.	Knowledge	4
2. Apply images and sounds to an applet with sample code.	Application	4
3. Explain about cookies and sessions in JSP	Knowledge	4
4.Explain about AWT with simple code	Understand	4
5. Discuss Layout managers and menus in AWT with sample code.	Understand	4

UNIT-5

Questions

QUESTIONS	Blooms taxonomy level	Course outcomes
1. Discuss Java Web Services	Knowledge	5
2. Explain XML with sample code	Understand	5
3. Explain form Navigation in XML	Analysis	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 _____

Multiple Choice Questions:-

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 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