

Fr. Conceicao Rodrigues College of Engineering
Department of Computer Engineering

Lesson Plan
Academic year 2022 - 23 (ODD SEM)

Subject Code : CSDLO5012	Year/ Semester : T. E..(Comp) / Sem V
Name of the Subject: Internet Programming	Class: Div A and B

Faculty Incharge : Prof. Prachi Patil

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Subject Code	Subject Name	Teaching Scheme (Contact Hours)			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical/ Oral	Tutorial	Total
CSDLO5012	Internet Programming	03	-	-	3	-	-	3

Subject Code	Subject Name	Examination Scheme								
		Theory Marks					Term Work (Mark)	Practical & Oral (Mark)	Oral (Mark)	Total (Mark)
		Internal assessment			End Sem. Exam					
		Test1	Test 2	Avg. of 2 Tests						
CSDLO 5012	Internet Programming	20	20	20	80	-	-	-	100	

Prerequisite: Data Structures, Programming Languages- JAVA, Python

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Course Objective:

1. To get familiar with the basics of Internet Programming.
2. To acquire knowledge and skills for creation of web sites considering both client and server side programming.
3. To gain the ability to develop responsive web applications and explore different web extensions and web services standards.
4. To learn characteristics of RIA and React js

Course Outcomes : On successful completion of course learner will be able:

CSDLO5012.1	Implement interactive web page(s) using HTML and CSS.
CSDLO5012.2	Design a responsive web site using JavaScript and demonstrate database connectivity using JDBC.
CSDLO5012.3	Demonstrate Rich Internet Application using Ajax and demonstrate various web extensions
CSDLO5012.4	Demonstrate web application using ReactJs

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Module	Content	Hrs
1	Introduction to Web Technology	10
1.1	<p>Web Essentials: Clients, Servers and Communication, The Internet, Basic Internet protocols, World wide web, HTTP Request Message, HTTP Response Message, Web Clients, Web Servers</p> <p>HTML5 – fundamental syntax and semantics, Tables, Lists, Image, HTML5 control elements, Semantic elements, Drag and Drop, Audio – Video controls</p> <p>CSS3 – Inline, embedded and external style sheets – Rule cascading, Inheritance, Backgrounds, Border Images, Colors, Shadows, Text, Transformations, Transitions, Animation, Basics of Bootstrap.</p>	
2	Front End Development	7
2.1	Java Script: An introduction to JavaScript–JavaScript DOM Model–Date and Objects-Regular Expressions- Exception Handling-Validation-Built-in objects-Event Handling, DHTML with JavaScript-JSON introduction – Syntax – Function Files – Http Request –SQL.	
3.	Back End Development	7
3.1	<p>Servlets: Java Servlet Architecture, Servlet Life Cycle, Form GET and POST actions, Session Handling, Understanding Cookies, Installing and Configuring Apache Tomcat Web Server,</p> <p>Database Connectivity: JDBC perspectives, JDBC program example</p> <p>JSP: Understanding Java Server Pages, JSP Standard Tag Library (JSTL), Creating HTML forms by embedding JSP code.</p>	
4	Rich Internet Application (RIA)	4
4.1	<p>Characteristics of RIA,</p> <p>Introduction to AJAX: AJAX design basics, AJAX vs Traditional Approach, Rich User Interface using Ajax, jQuery framework with AJAX.</p>	
5	Web Extension: PHP and XML	6
5.1	XML –DTD (Document Type Definition), XML Schema, Document Object Model, Presenting XML, Using XML Parsers: DOM and SAX, XSL-eXtensible Stylesheet Language	
5.2	Introduction to PHP- Data types, control structures, built in functions, building web applications using PHP- tracking users, PHP and MySQLdatabase connectivity with example.	
6	React js	5
6.1	Introduction, React features, App “Hello World” Application, Introduction to JSX, Simple Application using JSX.	
		39

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Text Books:

1. Ralph Moseley, M.T. Saviya, "Developing Web Applications", Willy India, Second Edition, ISBN: 978-81 -265-3867-6.
2. "Web Technology Black Book", Dremtech Press, First Edition, 978-7722-997.
3. Robin Nixon, "Learning PHP, MySQL, JavaScript, CSS & HTML5" Third Edition, O'REILLY, 2014.
4. Dana Moore, Raymond Budd, Edward Benson, Professional Rich Internet Applications: AJAX and Beyond Wiley publications.
5. Alex Banks and Eve Porcello, Learning React Functional Web Development with React and Redux, OREILLY, First Edition

Reference Books :

1. Harvey & Paul Deitel & Associates, Harvey Deitel and Abbey Deitel, Internet and World Wide Web - How To Program, Fifth Edition, Pearson Education, 2011.
2. Achyut S Godbole and Atul Kahate, —Web Technologies, Second Edition, Tata McGraw Hill, 2012.

At the end of this course students should be able to:

CO		Blooms Taxonomy	Explanation
CSDLO5 012.1	Implement interactive web page(s) using HTML and CSS.	Knowledge - involves recognizing or remembering facts, terms, basic concepts, or answers Comprehension - explains, gives examples, shows relationship of) Apply-(Involves applying acquired knowledge, facts, techniques and rules)	Understand and apply the fundamentals of CSS and HTML
CSDLO5 012.2	Design a responsive web site using JavaScript and demonstrate database connectivity using JDBC.	Apply-(Involves applying acquired knowledge, facts, techniques and rules)	Implement responsive websites, error handling using java script
CSDLO5 012.3	Demonstrate Rich Internet Application using Ajax and demonstrate various web extensions	Apply-(Involves applying acquired knowledge, facts, techniques and rules)	Implement database connectivity
CSDLO5 012.4	Demonstrate web application using ReactJs	Knowledge - involves recognizing or remembering facts, terms, basic concepts, or answers Analysis- Analysis of elements, Analysis of relationships, Analysis of organization	Categories and correlate various front end technologies with backend technologies

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CO-PO-PSO Mapping :

Course Outcomes (COs)	Program Outcomes(POs)											Program Specific Objectives (PSO)	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 11	PO 12	PSO 1	PS O2
CSDLO5012.1	1	1											
CSDLO5012.2	1	1											
CSDLO5012.3	1	1	1										
CSDLO5012.4	1												

CO Assessment Tools:

CSDLO5012.1 Implement interactive web page(s) using HTML and CSS.

Direct Method Tools (dm)	Wt=80%
Assignment1(assign)	0.3
UnitTest1(ut1)	0.4
End Sem Marks(Theory) (uth)	0.3
Indirect Method Tools(idm)	Wt=20%
Course Exit Survey (idm)	
CSDL05012.1 = 0.8* CSDL05012.1dm + 0.2* CSDL05012.1idm	

CO Assessment Tools:

CSDLO5012.2 Design a responsive web site using JavaScript and demonstrate database connectivity using JDBC.

Direct Method Tools (dm)	Wt=80%
Assignment1(assign)	0.3
UnitTest1(ut1)	0.4
End Sem Marks(Theory) (uth)	0.3
Indirect Method Tools(idm)	Wt=20%
Course Exit Survey (idm)	
CSDL05012.2 = 0.8* CSDL05012.2dm + 0.2* CSDL05012.2idm	

CO Assessment Tools:

CSDLO5012 Internet Programming (IP)

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CSDL05012.3 Demonstrate Rich Internet Application using Ajax and demonstrate various web extensions

Direct Method Tools (dm)	Wt=80%
Assignment1(assign)	0.3
UnitTest1(ut1)	0.4
End Sem Marks(Theory) (uth)	0.3
Indirect Method Tools(idm)	Wt=20%
Course Exit Survey (idm)	
CSDL05012.3= 0.8* CSDL05012.3dm + 0.2* CSDL05012.3idm	

CO Assessment Tools:

CSDL05012.4 Demonstrate web application using ReactJs

Direct Method Tools (dm)	Wt=80%
UnitTest1(ut1)	0.5
End Sem Marks(Theory) (uth)	0.5
Indirect Method Tools(idm)	Wt=20%
Course Exit Survey (idm)	
CSDL05012.4= 0.8* CSDL05012.4dm + 0.2* CSDL05012.4idm	

Rubrics for Assignment:

Indicator	Very Poor	Poor	Average	Good	Excellent
On time Submission (2)	Experiment not submitted (0)	More than two session late (0.5)	Two sessions late (1)	One session late (1.5)	Early or on time (2)
Coding Standards (4)	N/A	A difficult and inefficient solution. Does not execute due to errors. User prompts are misleading or non-existent (1)	A logical solution that is easy to follow but it is not the most efficient. Executes without errors. User prompts contain little information, poor design. (2)	Solution is efficient, easy to understand, and maintain Executes without errors. User prompts are understandable, minimum use of symbols or spacing in output. (3)	Solution is efficient and easy to follow (i.e. no confusing tricks). Executes without errors excellent user prompts, good use of symbols, spacing in output. (4)
Knowledge of concepts (4)	N/A	Major points are omitted / addressed minimally (1)	All major topics are covered, the information is accurate. (2)	Most major and some minor criteria are included. Information is Accurate (3)	All major and minor criteria are covered and are accurate. (4)

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Lecture Plan (Div A)

Lecture No	Topics	Delivery Mode	Planned Date	Actual Date
1.	Web Essentials: Clients, Servers and Communication, The Internet, Basic Internet protocols, World wide web, HTTP Request Message, HTTP Response Message, Web Clients, Web Servers	Online Demonstration, classroom teaching	18-7-22	18-7-22
2.	HTML5 – fundamental syntax and semantics	Online Demonstration, classroom teaching	20-7-22	20-7-22
3.	Tables, Lists, Image.	Online Demonstration, classroom teaching	22-7-22	22-7-22
4.	HTML5 control elements, Semantic elements	Online Demonstration, classroom teaching	25-7-22	25-7-22
5.	Drag and Drop, Audio –Video controls	Online Demonstration, classroom teaching	27-7-22	27-7-22

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6.	CSS3 – Inline, embedded and external style sheets –Rule	Online Demonstration, classroom teaching	29-7-22	29-7-22
7.	cascading, Inheritance, Backgrounds,	Online Demonstration, classroom teaching	1-8-22	1-8-22
8.	Border Images, Colors, Shadows, Text,	Online Demonstration, classroom teaching	3-8-22	3-8-22
9.	Transformations, Transitions, Animation	Online Demonstration, classroom teaching	5-8-22	5-8-22
10.	Basics of Bootstrap	Online Demonstration, classroom teaching	8-8-22	8-8-22
11.	Java Script: An introduction to JavaScript	Online Demonstration, classroom teaching	10-8-22	10-8-22
12.	JavaScript DOM Model-Date and Objects	Online Demonstration, classroom teaching	12-8-22	12-8-22
13.	Regular Expressions-Exception Handling	Online Demonstration, classroom teaching	15-8-22	15-8-22
14.	Validation-Built-in objects	Online Demonstration, classroom teaching	17-8-22	17-8-22
15.	Event Handling, DHTML with JavaScript	Online Demonstration, classroom teaching	19-8-22	19-8-22
16.	JSON introduction –Syntax	Online Demonstration, classroom teaching	22-8-22	22-8-22
17.	Function Files – Http Request –SQL.	Online Demonstration, classroom teaching	24-8-22	24-8-22
18.	Servlets: Java Servlet Architecture, Servlet Life Cycle	Online Demonstration, classroom teaching	26-8-22	26-8-22
19.	Form GET and POST actions, Session Handling, Understanding Cookies	Online Demonstration, classroom teaching	29-8-22	29-8-22
20.	Installing and Configuring Apache Tomcat Web Server,	Online Demonstration,	31-8-22	31-8-22

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	Database Connectivity: JDBC perspectives	classroom teaching		
21.	JDBC program example	Online Demonstration, classroom teaching	2-9-22	2-9-22
22.	JSP: Understanding Java Server Pages	Online Demonstration, classroom teaching	12-9-22	12-9-22
23.	JSP Standard Tag Library (JSTL)	Online Demonstration, classroom teaching	14-9-22	14-9-22
24.	Creating HTML forms by embedding JSP code.	Online Demonstration, classroom teaching	16-9-22	16-9-22
25.	Characteristics of RIA and Intro to AJAX	Online Demonstration, classroom teaching	19-9-22	19-9-22
26.	AJAX vs Traditional Approach	Online Demonstration, classroom teaching	21-9-22	21-9-22
27.	Rich User Interface using Ajax	Online Demonstration, classroom teaching	23-9-22	23-9-22
28.	jQuery framework with AJAX.	Online Demonstration, classroom teaching	26-9-22	26-9-22
29.	XML –DTD (Document Type Definition)	Online Demonstration, classroom teaching	28-9-22	28-9-22
30.	XML Schema, Document Object Model, Presenting XML	Online Demonstration, classroom teaching	30-9-22	30-9-22
31.	Using XML Parsers: DOM and SAX, XSL-eXtensible Stylesheet Language	Online Demonstration, classroom teaching	3-10-22	3-10-22
32.	Introduction to PHP	Online Demonstration, classroom teaching	5-10-22	5-10-22
33.	building web applications using PHP	Online Demonstration, classroom teaching	7-10-22	7-10-22
34.	tracking users,	Online Demonstration,	7-10-22	7-10-22

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		classroom teaching		
35.	PHP and MySQL database connectivity with example	Online Demonstration, classroom teaching	10-10-22	10-10-22
36.	Introduction, React features,	Online Demonstration, classroom teaching	12-10-22	12-10-22
37.	App “Hello World” Application,	Online Demonstration, classroom teaching	14-10-22	14-10-22

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Lecture Plan (Div B)

Lecture No	Topics	Delivery Mode	Planned Date	Actual Date
1.	Web Essentials: Clients, Servers and Communication, The Internet, Basic Internet protocols, World wide web, HTTP Request Message, HTTP Response Message, Web Clients, Web Servers	Online Demonstration, classroom teaching	19-7-22	19-7-22
2.	HTML5 – fundamental syntax and semantics	Online Demonstration, classroom teaching	21-7-22	21-7-22
3.	Tables, Lists, Image.	Online Demonstration, classroom teaching	22-7-22	22-7-22
4.	HTML5 control elements, Semantic elements	Online Demonstration, classroom teaching	26-7-22	26-7-22
5.	Drag and Drop, Audio –Video controls	Online Demonstration, classroom teaching	28-7-22	28-7-22
6.	CSS3 – Inline, embedded and external style sheets –Rule	Online Demonstration, classroom teaching	29-7-22	29-7-22
7.	cascading, Inheritance, Backgrounds,	Online Demonstration, classroom teaching	2-8-22	2-8-22
8.	Border Images, Colors, Shadows, Text,	Online Demonstration, classroom teaching	4-8-22	4-8-22
9.	Transformations, Transitions, Animation	Online Demonstration, classroom teaching	5-8-22	5-8-22
10.	Basics of Bootstrap	Online Demonstration, classroom teaching	9-8-22	9-8-22
11.	Java Script: An introduction to JavaScript	Online Demonstration, classroom teaching	11-8-22	11-8-22
12.	JavaScript DOM Model-Date and Objects	Online Demonstration, classroom teaching	12-8-22	12-8-22
13.	Regular Expressions-	Online	16-8-22	16-8-22

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	Exception Handling	Demonstration, classroom teaching		
14.	Validation-Built-in objects	Online Demonstration, classroom teaching	18-8-22	18-8-22
15.	Event Handling, DHTML with JavaScript	Online Demonstration, classroom teaching	19-8-22	19-8-22
16.	JSON introduction –Syntax	Online Demonstration, classroom teaching	23-8-22	23-8-22
17.	Function Files – Http Request –SQL.	Online Demonstration, classroom teaching	25-8-22	25-8-22
18.	Servlets: Java Servlet Architecture, Servlet Life Cycle	Online Demonstration, classroom teaching	26-8-22	26-8-22
19.	Form GET and POST actions, Session Handling, Understanding Cookies	Online Demonstration, classroom teaching	30-8-22	30-8-22
20.	Installing and Configuring Apache Tomcat Web Server, Database Connectivity: JDBC perspectives	Online Demonstration, classroom teaching	1-9-22	1-9-22
21.	JDBC program example	Online Demonstration, classroom teaching	2-9-22	2-9-22
22.	JSP: Understanding Java Server Pages	Online Demonstration, classroom teaching	13-9-22	13-9-22
23.	JSP Standard Tag Library (JSTL)	Online Demonstration, classroom teaching	15-9-22	15-9-22
24.	Creating HTML forms by embedding JSP code.	Online Demonstration, classroom teaching	16-9-22	16-9-22
25.	Characteristics of RIA and Intro to AJAX	Online Demonstration, classroom teaching	20-9-22	20-9-22
26.	AJAX vs Traditional Approach	Online Demonstration, classroom teaching	22-9-22	22-9-22
27.	Rich User Interface using Ajax	Online	23-9-22	23-9-22

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		Demonstration, classroom teaching		
28.	jQuery framework with AJAX.	Online Demonstration, classroom teaching	27-9-22	27-9-22
29.	XML –DTD (Document Type Definition)	Online Demonstration, classroom teaching	29-9-22	29-9-22
30.	XML Schema, Document Object Model, Presenting XML	Online Demonstration, classroom teaching	30-9-22	30-9-22
31.	Using XML Parsers: DOM and SAX, XSL-eXtensible Stylesheet Language	Online Demonstration, classroom teaching	4-10-22	4-10-22
32.	Introduction to PHP	Online Demonstration, classroom teaching	6-10-22	6-10-22
33.	building web applications using PHP	Online Demonstration, classroom teaching	7-10-22	7-10-22
34.	tracking users,	Online Demonstration, classroom teaching	7-10-22	7-10-22
35.	PHP and MySQL database connectivity with example	Online Demonstration, classroom teaching	11-10-22	11-10-22
36.	Introduction, React features,	Online Demonstration, classroom teaching	13-10-22	13-10-22
37.	App “Hello World” Application,	Online Demonstration, classroom teaching	15-10-22	15-10-22

Practical Assignments and CO Mapping:

Assignment No.	Assignment Title	CO Mapping	Planned Date	Submission Deadline
1.	Clone Google Home page	CO1	20-7-22	27-7-22
2.	Creating you Portfolio	CO1	22-7-22	29-7-22
3.	Making a Questionnaire (Using Table and form tag)	CO1	27-7-22	4-8-22
4.	Create a form for student admission using HTML and	CO1	13-9-22	20-9-22

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	CSS			
5.	Validate the form created in Exercise 4 using Javascript	CO2	13-9-22	20-9-22
6.	Convert all form data (from Exercise 4) to JSon object (using FormData WebAPI)	CO2	13-9-22	20-9-22
7.	Send the Form Data (Exercise 6) from client to server using Ajax	CO2	13-9-22	20-9-22
8.	XML, XSLT, DTD/XML Schema, XPath.	CO2	26-9-22	4-10-22
9.	PHP <Read and display html form contents using PHP>	CO3	1-10-22	7-10-22
10.	PHP <Read and display html form contents using PHP>	CO3	1-10-22	7-10-22
11.	Client server Application using Nodejs and Javascript <Two way communication>	CO3	1-10-22	7-10-22
12.	12 (a): Create Dynamic webpage using Servlets 12(b): Create Dynamic Web page using Servlet	CO3	6-10-22	13-10-22
13.	Form validation using JSP	CO3	8-10-22	16-10-22

Unit Test 1 Paper:

FR. CONCEICAO RODRIGUES COLLEGE OF ENGG.
Fr. Agnel Ashram, Bandstand, Bandra (W) Mumbai 400 050.

I UNIT TEST

SEMESTER / BRANCH: V/COMPUTER
SUBJECT: INTERNET PROGRAMMING
DATE:07-09-22

MAX. MARKS: 20
TIMING: 10am

Student should be able to

CSC5012.1	Implement interactive web pages using HTML and CSS
CSC5012.2	Design a responsive website using Javascript and demonstrate database connectivity using JDBC

Q.NO	Questions	MARKS	CO	BL	PI
1.A	What are the different ways to add css file to a HTML page. Explain any 2 methods with example. Mention the advantage of each method	5	CSC5012.1	2	2.6.4

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1.B	Explain with proper syntax and example how to use 5 types of CSS selectors.	5	CSC5012.1	1	2.6.3
OR					
1.A	Write html statement for following 1. Create largest size text “Welcome to D12A Class” 2. Hyperlink “university” to url http://www.mu.ac.in/timetable 3. Insert image in background. 4. Create 2 text boxes with label, 1 drop down list, 2 checkboxes. 5. Divide your screen into 6 equal partitions (using frames).	5	CSC5012.1	2	2.6.3
1.B	Demonstrate any 1 example of 2D transform using CSS.	5	CSC5012.1	3	2.6.3
OR					
2.A	Design form with textbox and two radio button upper case and lower case of text in text box should get change according to button selected.	5	CSC5012.2	3	2.6.3
2.B	Explain "Window" object of JavaScript DOM. Write JavaScript code to change background color of the web page automatically after every five seconds.	5	CSC5012.2	3	2.6.3
OR					
2.A	plain how form validation can be done with Regular expression using an example.	5	CSC5012.2	3	2.6.4
2.B	Explain how to create Javascript object ‘student’ which has properties like marks of 3 subjects. Demonstrate how to calculate total marks for that student by calling a function.	5	CSC5012.2	3	2.6.3

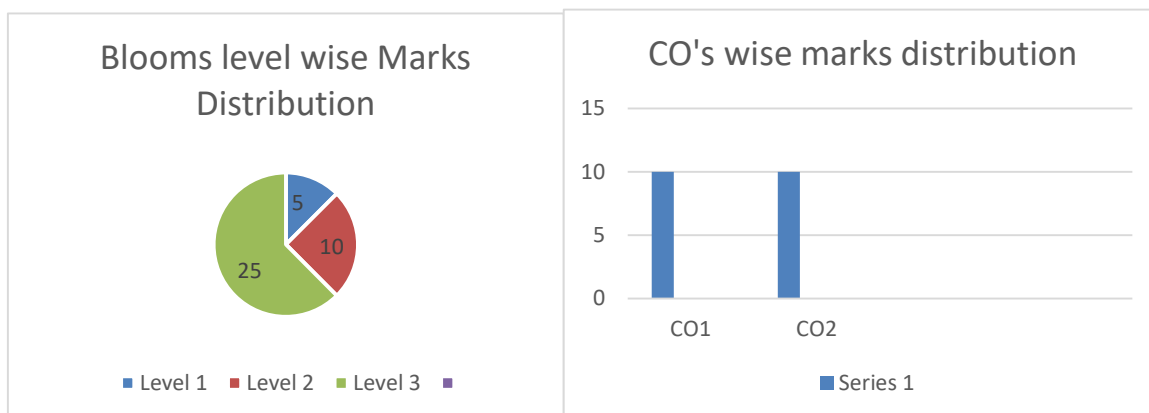
*BL – Bloom’s Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)

*CO – Course Outcomes

*PO – Program Outcomes;

*PI Code – Performance Indicator Code

BL Distribution PIE chart and CO distribution bar chart (Following diagram is just for reference purpose only)



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Unit Test Paper 2:

FR. CONCEICAO RODRIGUES COLLEGE OF ENGG.
 Fr. Agnel Ashram, Bandstand, Bandra (W) Mumbai 400 050.

II UNIT TEST

SEMESTER / BRANCH: V/COMPUTER (A & B)
 SUBJECT: INTERNET PROGRAMMING
 DATE: 19-10-22

MAX. MARKS: 20
 TIMING: 10am

Student should be able to

CSDLO5012.3	Demonstrate Rich Internet Application using Ajax and demonstrate and differentiate various Web Extensions
CSDLO5012.4	Demonstrate web application using Reactive Js

Q.NO	Questions	MARKS	CO	BL	PI
1	Show using an example how to receive response from server using AJAX.	5	CSDLO 5012.3	3	1.4.1 3.4.3
2	How are objects created in PHP? . Explain with example	5	CSDLO 5012.3	3	1.4.1 3.4.3
3	Differentiate between XML and HTML	5	CSDLO 5012.3	4	1.4.1 2.4.3
4	Explain features of Reactjs	5	CSDLO 5012.4	1	1.4.1

*BL – Bloom’s Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)

*CO – Course Outcomes ; *PO – Program Outcomes; *PI Code – Performance Indicator Code

BL Distribution PIE chart and CO distribution bar chart (Following diagram is just for reference purpose only)

