COURSE CODE	**CS-343**
COURSE NAME	**WEB TECHNOLOGIES**
CREDIT HOURS	Theory: 02
	Practical: 01
	Total: 03
CONTACT HOURS	Theory: 32
	Practical: 48
	Total: 80
PREREQUISITE	CS-114

MODE OF TEACHING:

Instruction:	Two hours of lecture per week	67%
Practical:	Three hours of Lab work per week	33%

COURSE DESCRIPTION:

On completion of this course, a student will be familiar with client server architecture and able to develop a web application using java technologies. Students will gain the skills and project-based experience needed for entry into web application and development careers.

COURSE OBJECTIVES:

The students are expected to achieve the following:

1. Understand about World Wide Web & Internet
2. Will be able to develop Websites and applications
3. Will be able to understand, design and develop techniques for building Web applications
4. Will be able to learn techniques and use them to ensure proper operability, and functioning of a Web application

RELEVANT PROGRAM LEARNING OUTCOMES (PLOs):

The course is designed so that students will achieve the PLOs:

1	Engineering Knowledge:	☑	7	Environment and Sustainability:	☐
2	Problem Analysis:	☐	8	Ethics:	☐
3	Design/Development of Solutions:	☑	9	Individual and Team Work:	☐
4	Investigation:	☑	10	Communication:	☐
5	Modern Tool Usage:	☑	11	Project Management:	☐
6	The Engineer and Society:	☐	12	Lifelong Learning:	☐

COURSE LEARNING OUTCOMES:

Upon successful completion of the course, students will be able to:

No.	CLO	Domain	Taxonomy Level	PLO
1	Define the concepts relating to World Wide Web	Cognitive	1	1
2	Use design and development techniques for developing user centric and/or data-driven Web applications	Cognitive	3	3
3	Apply implementation strategies provided by various modern frameworks for creating Web applications.	Cognitive	4	4
4	Design Static and Dynamic Websites and applications using modern tools and frameworks	Psychomotor	7	5

TOPICS COVERED:

Theory:

No.	Topic
1	Introduction to Web & Web applications • Course Introduction, About Web: Definition, Internet Protocols (Layers), • Client Server Model, Request Response Loop, Peer to Peer model.

	• Role of DNS, HTTP, Uniform Resource Locators (URL), Web Servers
2	Client Side - Static content • HTML: Syntax, Structure, Elements, Markup. • HTML5, Role of W3C, Doc Type, HTML essentials
3	Client Side - Static content • HTML Tags, nested tags, required structured tags, Doctype, Head, Divs, Images, Links, Lists, Tables, Nav Bar
4	Client Side - Styling to static content • CSS1: Syntax, Blocks, Selectors, Properties, Inline styles, Id vs class sectors, Margins, Borders, Text, Style sheets • CSS3: Bootstrap, Media Queries, Responsive Grid, Grid layout and use of class keyword
5	Client Side – Dynamic content • Javascript: design, syntax, • XHTML: DOM, Events • TypeScript
6	Client Side – Reading and storing static content • XML: syntax, elements, attributes, parser, DTD: schema • JSON basics
7	Client Side – Dynamic content • AJAX and JQuery: Library, syntax, scripting, functions, event actions on clicks
8	Client Side – Dynamic content • AJAX and JQuery: Variables, , usages, if-else structure, logical operators
9	Client Side – Managing dynamic content • Angular JS: Advantages, features
10	Client Side – Managing dynamic content

	• Angular: Architecture, Advantages, features
11	Server Side – Static content • PHP: Server side scripting concept, introduction, syntax, control structures, Datatypes, Strings, printf,
12	Server Side – Content generation • PHP: if-else, do-while, for clause, arrays, Classes and Objects • PHP Laravel Framework
13	Server Side – Storing content • MySQL: Database & Web, MySQL, stored procedures, stored functions • PHP Laravel Frame continued
14	Server Side – Passing content within apps • PHP: Session variables and JSON • LaraVel Framework
15	Projects week and Advanced technologies

TEXT AND MATERIAL:

Textbook (s):

a. The Complete Reference, HTML & XHTML (2003), Thomas Powell
b. Web Programming: Building Internet Applications (2007) 2nd, 3rd Edition by Chris Bates
c. Forbes, Alan. The Joy of PHP: A Beginner's Guide to Programming Interactive Web Applications with PHP and MySQL (2015)

References Material:

a. W3Schools (https://www.w3schools.com/)
b. PHP Homepage (http://php.net/)
c. Stackoverflow (https://stackoverflow.com/)

ASSESMENT SYSTEM:

1. CLOs Assessment

Cognitive	Psychomotor	Affective
Spreadsheet	Rubrics	-

2. Relative Grading

Theoretical/Instruction			67%
	Assignments20%		
	Quizzes10%		
	OHT Exams20%		
	End Semester Exam50%		
Practical Work			33%
Laboratory Work		*80%*	
	Laboratory Repor/Rubrics 60%		
	Laboratory Quiz20%		
Viva/Quiz		*20%*	
Total			**100%**