

SEMESTER	VII					
YEAR	IV					
COURSE CODE	OPEN ELECTIVE					
TITLE OF THE COURSE	WEB TECHNOLOGIES					
SCHEME OF Instruction	Lecture Hours	Tutorial Hours	Practical Hours	Seminar/Projects Hours	Total Hours	Credits
	3	--	--	--	42	3

Perquisite Courses (if any):

#	Sem/Year	Course Code	Title of the Course
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COURSE OBJECTIVES:

- Understand the major areas and challenges of web programming.
- To create websites using HTML5, CSS3, JavaScript
- To create dynamic, interactive web pages using JavaScript
- Understand client-side JavaScript libraries and frameworks
- Understand server-side scripting language
- Use the techniques for creating data-driven websites using modern web technologies

COURSE OUTCOMES:

CO No.	Outcomes	Bloom's Taxonomy Level
CO1	Use the common HTML5 elements(tags) and CSS3 operations(styling properties) to interpret the fundamental of web page technologies and apply cascading Style Sheets for visual presentation and design well-structured web pages.	L1,L2
CO2	Implement the JavaScript programming concepts to develop client-side scripts and display the contents dynamically.	L3
CO3	Develop dynamic server-side applications by employing Node.js event driven model.	L3
CO4	Utilize the Node.js framework-Express.js basic concepts, and middleware to construct web applications more efficiently and intelligently, enabling faster development and smarter design	L3
CO5	Use various React features and React libraries to implement a functional front-end web application	L3

COURSE CONTENT:

MODULE 1		9Hrs
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WWW, HTML5 and CSS3 INTRODUCTION TO WWW: Overview of HTTP, HTTP request – response Markup Language (HTML5): Introduction to HTML and HTML5 - Formatting and Fonts Commenting Code – Anchors – Backgrounds – Images – Hyperlinks – Lists – Tables – HTML Forms.	
CSS3: Levels of style sheets; Style specification formats; Selector forms; Property value forms; Font properties; List properties; Color; Alignment of text; Background images, Conflict Resolution, CSS3 features: Box Shadow, Opacity, Rounded corners, Attribute selector	
MODULE 2	9Hrs
JAVASCRIPT Overview of JavaScript; Object orientation and JavaScript; General syntactic, characteristics; Primitives, operations, and expressions; Screen output and keyboard input. Control statements; Arrays; Functions, Constructors; A brief introduction on pattern matching using regular expressions, DOM Events	
MODULE 3	9Hrs
Node JS Introduction to NodeJS, Set up Dev Environment, Node JS Modules, Node Package Manager, File System, Events, Database connectivity using Mongo DB.	
MODULE 4	6Hrs
Express.JS Introducing Express: Basics of Express, Express JS Middleware: Serving Static Pages, Listing Directory Contents, Accepting JSON Requests and HTML Form Inputs, Handling Cookies.	
MODULE 5	9Hrs
React React.JS: Introducing React ,Main Principles of React, Building your first react app, Components in React, Transferring properties, Dealing with State, The Component life cycle, Virtual DOM, JSX	

TEXT BOOKS:

1. Programming the World Wide Web – Robert W. Sebesta, 7th Edition, Pearson Education, 2008.
2. Kirupa Chinnathambi, “Learning React”, 1 Edition, Addison-Wesley Professional
3. Ethan Brown, First Edition, “Web Development with Node and Express”, O’Reilly Media

REFERENCES:

1. Internet & World Wide Web How to H program – M. Deitel, P.J. Deitel, A. B. Goldberg, 3rd Edition, Pearson Education / PHI, 2004.
2. Web Programming Building Internet Applications – Chris Bates, 3rd Edition, Wiley India, 2006.
3. Basarat Ali Syed - Beginning Node.js-Apress ,2014.

4. Anthony Accomazzo, Ari Lerner, Clay Allsopp, David Guttman, Tyler Mcginnis, Nate Murray, FullStack React – The Complete Guide to ReactJS & Friends, Fullstack.io, 2017