23IC301					Course Name: Web Technology			
Teaching Scheme					Examination Scheme			
					Theory			Total
L	T	P	C	Hrs/Wk	Continuous Evaluation	Mid Semester	End Semester	Marks
2	0	0	2	2	25	25	50	100

Learning objectives:

- Learn fundamentals of web development.
- Design the front-end of webpages.
- To introduce Client side scripting with Javascript.
- Demonstrate the use of EcmaScript 6 to fulfil the the essentials of front-end development.
- Implement UI-UX using React.js framework and Responsive web designing for Web Applications

UNIT 1 (9 L)

Introduction to WWW : Protocols and programs, secure connections, application and development tools, the web browser, What is server, choices, setting up UNIX and Linux web servers, Logging users, dynamic IP Web Design: Web site design principles, planning the site and navigation, Introduction to HTML : The development process, Html tags and simple HTML forms, web site structure Introduction to XHTML : XML, Move to XHTML, Meta tags, Character entities, frames and frame sets, inside browser

UNIT 2 (8 L)

Style sheets : Need for CSS, introduction to CSS, basic syntax and structure, using CSS, background images, colors and properties, manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS, Javascript : Client side scripting, What is Javascript, How to develop Javascript, simple Javascript, variables, functions, conditions, loops and repetition

UNIT 3 (6 L)

Advance script, Javascript and objects, Javascript own objects, the DOM and web browser environments, forms and validations DHTML : Combining HTML, CSS and Javascript, events and buttons, controlling your browser, Inroduction to ECMAScript 6 JavaScript Variables - var, let, const, JavaScript Objects, JavaScript Events, JavaScript Array Methods, JavaScript Regular Expressions DOM Manipulation JavaScript Best Practices

UNIT 4 (7 L)

Front-end Web Development with React.js: Introduction to Frontend web development, Single page web applications, Fundamentals of React.js, Components: Class Components and Functional Components, React Hooks - useEffect, useReducer, useContext, useCallback, fetching data with React Hooks, JSX, Props, Methods as props, State and setState, Destructuring props and state.

Student centering learning: (The student centering learning contents should be declared at the commencement of semester. It should be maximum 10% ; however exact contents is left to faculty)

Lecture: 30HrsTutorial: 00Hrs Approximate Total: 30Hrs

Texts and References:

1. Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Introduction to Data Mining- Pearson Education.
2. Jiawei Han and Micheline Kamber, Data Mining–Concepts and Techniques- 2nd Edition, Morgan Kaufmann.
3. K.P. Soman, Shyam Diwakar, V. Ajay, Insight into Data Mining–Theory and Practice- PHI

Course Outcomes (COs):

At the end of this course students will be able to

CO1 – Learn the Web Design Concepts including WWW, HTTP protocol and Browser.
CO2 – Understand the design and style concepts of webpages using HTML and CSS
CO3 – Implement Javascript functionality to make interactive webpages
CO4 – Demonstrate the use of EcmaScript 6 to fulfil the the essentials of front-end development.
CO5 –Implement UI-UX using React.js framework and Responsive web designing for Web Applications
CO6 – Build a complete web solution for a given problem statement

20ICXXXP					Web Technology Lab					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	2	1	2	0	0	0	50	50	100

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List of Experiments:

1. Build web pages for your college with course details, departments, faculties, and the library. Use HTML href and list tags.
2. Develop a web page showing your class timetable using HTML tables.
3. A) To create user Student feedback form (use textbox, text area , checkbox, radio button, select box etc.)
   B) To create a web page using frame. Divide the page into two parts with Navigation links on left hand side of page (width=20%) and content page on right hand side of page (width = 80%). On clicking the navigation Links corresponding content must be shown on the right hand side. Content of the webpage should be your resume.
4. A) To use Inline CSS to format your resume.
   B) To use External CSS to format your class timetable as you created.
5. A) To implement Validation in above Feedback Form.
   B) To use regular expression for validation in Feedback Form.
6. Install & Configure Visual Studio Code as an IDE, setup an environment for React by downloading Node.js and install React framework along with its packages. Understand the folder structure used by React and develop a “Hello World Application”.
7. Implement React Routing for navigating 5 different webpages. Design a responsive navbar in ReactJS by using media queries, Material-UI/React-Bootstrap.
8. Create React Sidebar Navigation Menu for a webpage. Implement the concept of React Hooks for backward compatibility and faster user experience.
9. Create simple cards using MaterialUI and React. Use animations to make it more attractive
10. Design an attractive Login and Registration form using Material-UI. Use Validations to validate the errors and prompt the errors on the webpage.

COURSE OUTCOMES

On completion of the course, student will be able to

CO1 – Learn the Web Design Concepts including WWW, HTTP protocol and Browser.
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CO3 – Implement Javascript functionality to make interactive webpages
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END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 25 **Exam Duration: 2 Hrs.**

The laboratory exam would be conducted in the Lab, and students would be provided 25 Marks one or more questions on: simulation and designing/experimentation/programmingcoding/implementation/investigation/solution-development.