



Maharashtra Institute of Technology

Chhatrapati Sambhajanagar

(An Autonomous Institute)



G. S. Mandal's

Maharashtra Institute of Technology

Chhatrapati Sambhajanagar

An Autonomous Institute Affiliated to

Dr. Babasaheb Ambedkar Marathwada University,

Chhatrapati Sambhajanagar, Maharashtra (India)

Third Year B. Tech Exit Course Syllabus

**(Department of Computer Science and
Engineering)**

**(Offered by Department of Computer Science
and Engineering)**

(NEP 2020 Based Curriculum)

WEF AY 2025-26

Students may opt for Exit after successful completion of **Second Year** provided s/he earns 8 additional credits through coursework (**VSEC**) and/or **Internship/OJT** during the summer vacation. S/he will be awarded a 2-Year UG **Diploma in Artificial Intelligence and Data Science / Artificial Intelligence (AI) and Data Science**. Details are available at the Department.

Third Year B. Tech (Department of Computer Science and Engineering)

Exit Course Syllabus Structure

WEF 2025-26 (NEP 2020 Based Curriculum)

Sr. No.	Course Code	Course Name	Credits
1	EX-CSE-301	Web Development	03
2	EX-CSE-302	Web Development Laboratory	01
3	EX-CSE-303	Internship/Mini Project	04

(Faculty of Science & Technology) Department of Computer Science and Engineering Syllabus of S. Y. B. Tech. Department of Computer Science and Engineering (Exit Course)	
Course Code: EX-CSE301 Course: Web Development Teaching Scheme: Theory: 03 Hrs/week	Credits: 03
Objectives	By the end of this course, students will be able to: <ul style="list-style-type: none"> • To learn the fundamentals of web essentials and markup languages • To use the Client-side technologies in web development • To use the Server-side technologies in web development • To understand the web services and frameworks
Course Outcomes	<ol style="list-style-type: none"> 1. Implement and analyse behaviour of web pages using HTML and CSS 2. Apply the client side technologies for web development 3. Analyse the concepts of Servlet and JSP 4. Analyse the Web services and frameworks 5. Apply the server side technologies for web development 6. Create the effective web applications for business functionalities using latest web development platforms
7. Web Essentials and Mark-up language HTML: The Internet, basic internet protocols, the world wide web, HTTP Request message, HTTP response message, web clients, web servers. HTML: Introduction, history and versions. HTML elements: headings, paragraphs, line break, colors and fonts, links, frames, lists, tables, images and forms, Difference between HTML and HTML5. CSS: Introduction to Style Sheet, CSS features, CSS core syntax, Style sheets and HTML, Style rule cascading and inheritance, text properties. Bootstrap. (7 Hrs)	
8. Client-Side Technologies: JavaScript and DOM: JavaScript: Introduction to JavaScript, JavaScript in perspective, basic syntax, variables and data types, statements, operators, literals, functions, objects, arrays, built in objects, JavaScript debuggers. DOM: Introduction	

to Document Object Model, DOM history and levels, intrinsic event handling, modifying element style, the document tree, DOM event handling, jQuery, Overview of Angular JS. (7 Hrs)

9. Java Servlets and XML: Servlet: Servlet architecture overview, A “Hello World” servlet, Servlets generating dynamic content, Servlet life cycle, parameter data, sessions, cookies, URL rewriting, other Servlet capabilities, data storage, Servlets concurrency, databases (MySQL) and Java Servlets. XML: XML documents and vocabularies, XML declaration, XML Namespaces, DOM based XML processing, transforming XML documents, DTD: Schema, elements, attributes. AJAX: Introduction, Working of AJAX. (7 Hrs)

10. JSP and Web Services: JSP: Introduction to Java Server Pages, JSP and Servlets, running JSP applications, Basic JSP, JavaBeans classes and JSP, Support for the Model-view-controller paradigm, JSP related technologies. Web Services: Web Service concepts, Writing a Java Web Service, writing a Java web service client, Describing Web Services: WSDL, Communicating Object data: SOAP. Struts: Overview, architecture, configuration, actions, interceptors, result types, validations, localization, exception handling, annotations. (7 Hrs)

11. Server-Side Scripting Languages: PHP: Introduction to PHP, uses of PHP, general syntactic characteristics, Primitives, operations and expressions, output, control statements, arrays, functions, pattern matching, form handling, files, cookies, session tracking, using MySQL with PHP, WAP and WML. Introduction to ASP.NET: Overview of the .NET Framework, Overview of C#, Introduction to ASP.NET, ASP.NET Controls, Web Services. Overview of Node JS. (07 Hrs)

12. Ruby and Rails: Clo Introduction to Ruby: Origins & uses of Ruby, scalar types and their operations, simple input and output, control statements, fundamentals of arrays, hashes, methods, classes, code blocks and iterators, pattern matching. Introduction to Rails: Overview of Rails, Document Requests, Processing Forms, Rails Applications and Databases, Layouts, Rails with Ajax. Introduction to EJB (07 Hrs)

Sr. No.	Title	Author	Publication	Edition
1.	"Web Technologies: A	Jeffrey C.Jackson	Pearson Education,	Second

	Computer Science Perspective"			Edition
2.	"Programming the World Wide Web"	Barrie Sosinsky	Wiley-India	4th Edition
3.	"Core Web Programming",	Marty Hall, Larry Brown	Pearson Education	Second Edition
4.	"Internet & World Wide Web How To Program"	H.M. Deitel, P.J. Deitel and A.B. Goldberg	Pearson Education	Third Edition
5.	"Web Programming Building Internet Applications"	Chris Bates	Wiley India	Third Edition

(Faculty of Science & Technology) Department of Computer Science and Engineering Syllabus of S. Y. B. Tech. Department of Computer Science and Engineering (Exit Course)	
Course Code: EX-CSE302 Course: Web Development Laboratory Teaching Scheme: Practical: 02 Hrs/week	Credits: 01
Objectives	<ul style="list-style-type: none"> • To provide beginner and intermediate web developers with practical project ideas that help them build foundational skills in HTML, CSS, JavaScript, and API integration. • To encourage hands-on experimentation and learning by offering a variety of small, achievable programs that cover essential web development concepts such as responsive design, user interaction, and data handling.
List of Experiments	<ol style="list-style-type: none"> 1. Create a webpage layout that adjusts to different screen sizes using CSS Flexbox and Grid. 2. Add a toggle button to switch between light and dark themes using JavaScript and CSS. 3. Build a basic calculator that performs arithmetic operations using HTML, CSS, and JavaScript. 4. Create a task manager with add, delete, and mark-as-done features using JavaScript and localStorage. 5. Filter a list of items dynamically as the user types in a search box using JavaScript. 6. Display images in a grid and open them in a modal popup when clicked. 7. Fetch and display data from a public API like OpenWeatherMap using JavaScript. 8. Validate user input in a form before submission using JavaScript and regular expressions. 9. Allow users to drag items and drop them into different zones using HTML5 Drag and Drop API. 10. Create a multiple-choice quiz with scoring and feedback using JavaScript.

(Faculty of Science & Technology) Department of Computer Science and Engineering Syllabus of S. Y. B. Tech. Department of Computer Science and Engineering (Exit Course)	
Course Code: EX-CSE103 Course: Internship/ Mini Project Teaching Scheme: Theory: 03 Hrs/week	Credits: 04
	The Internship/Mini Project serves as an exit course under the NEP framework, offering students practical exposure to industry or project-based learning. It enables students to apply theoretical knowledge in real-world scenarios, develop technical and professional skills, and prepare a comprehensive report.