Shri Ramdeobaba College of Engineering and Management-Nagpur 13

Department of Computer Science & Engineering

Honors Specialization Scheme

Session 2023-24

Honors Specialization in Computer Science Engineering

(Full stack Development Track)

Sr. No.	Sem	Course Code	Name of Course	Hours per week			Credits	Maximum Marks			ESE Duration Hrs
				L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	III	CSTH301	Web Development	3	0	0	3	50	50	100	-
2	IV	CSTH401	Full Stack-I	3	0	0	3	50	50	100	-
3	V	CSTH501	Full Stack-II	4	0	0	4	50	50	100	-
4	VI	CSTH601	Software Development Automation	4	0	0	4	50	50	100	-
5	VII	CSPH701	Project	0	0	8	4	50	50	100	-

Note: Marks division for all the courses mentioned above (CSE, Honors) will be off 50 marks for Continuous Evaluation and 50 marks for End Sem Exam. Evaluation pattern for Continuous Evaluation and ESE can be lab conduction, viva-voce, execution-based testand MCQ test.

Syllabus for Semester III, B. Tech. (Computer Science & Engineering)

Course Code:	**CSTH301**	**Course:**	**Web Development**
L: 3 Hrs, T: 0 Hr, P: 0 Hr, Per Week		**Total Credits:**	**03**

Course Objectives

1. To comprehend the fundamentals of web development and Laravel Framework
2. To learn reusability methods in Laravel for better web development
3. To understand the techniques to access and store data using forms and databases
4. To comprehend basics of Vue.js Framework for designing Front-end web applications.

Syllabus

Unit I

Introduction to Laravel: Laravel Project Structure, Artisan Command. Understanding Routing in Laravel: Defining Routes, Managing and Naming Routes, Route Parameters, Optional Route Parameters, Constraining Possible Route Parameters Values

Unit II

Understanding Templating, Views and Blade: Template Inheritance and Layouts, Passing and Rendering data in Templates, Simple View Rendering Routes, Conditional Rendering, Conditional Rendering Alternatives, Loops in Templates, More Control Inside Loops, Partial Templates (Including Templates), Partial Templates in Loops

Unit III

Request and Response: Responses, Codes, Headers and Cookies, Redirect Responses, Returning JSON, Returning File Downloads, Grouping Routes, Request Input, Middleware. **Controllers:** Controllers, Single Action Controllers, Resource Controllers, Implementing a Resource Controller.

Unit IV

Databases: Databases Bird's Eye Overview, Migrations Overview, Creating and Running Migrations. **Understanding Eloquent ORM Models:** Models - Creating and Updating, Introducing Tinker, Models - Retrieving Single Model. **Forms:** Forms Markup, Cross Site Request Forgery Explained, Forms - Storing Submitted Data, Forms - Input Validation, Forms - Displaying Validation Errors, Forms - Form Request Classes, Session Flash Messages, Forms - Old Input Helper, Forms/Models - Model Mass Assignment. **CRUD**: Editing, updating and Deleting using Forms\

Unit V

Introduction to Vue.js: Overview of Vue.js, Basic Vue.js syntax and concepts, Component creation, Component props and events, Vue.js templates, Conditional rendering and looping, Methods in Vue.Js

Unit VI

Vue.js Directives: Introduction to directives, Built in directives, creating custom directives, Vue.js state management, Vuex, Vue.js animations and Transitions

Course Outcomes:

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

1. Comprehend the basics of web development.
2. Analyze the methods of reusability in Laravel
3. Identify the data storage, access and modification techniques in Laravel.
4. Apply their knowledge of Vue.js to the development of web applications

Text Books

1. Laravel Up & Running A framework for building Modern PHP Apps by Matt Stauffer, O'Reilly Publication.
2. Getting to know Vue.js by Brett Nelson, Apress publications.

Reference Books

1. Mastering Laravel, By Christopher John Pecoraro.
2. Vue.js Up & Running by Callum Macrae, O'Reilly Publication.