

SN	Topics	Sub-Topics	Days	Software Required
01	RDBMS Fundamentals SQL Queries Working with Data	1. Fundamentals of DBMS 2. RDBMS (Joins, Keys, Relationships, Constraints) 3. SQL Statements 4. DDL (Data Definition Language) 5. DML (Data Manipulation Language) 6. Advanced Concepts (Triggers, Views, CTE, etc.) 7. PL/SQL – Stored Procedures, Functions, Temp Tables, GTTs, Historical Tables, Synonyms, etc. 8. Transactions – ACID, Error Logging, Commit, Rollback, DB Profiling, Tracing 9. ORM (Object-Relational Mapping) 10. Data Warehouse Concepts	1	ORACLE XE
02	HTML, CSS, JS, Bootstrap	1. JavaScript basics & fundamentals 2. Operators 3. Conditionals 4. Loops 5. Functions 6. Arrow functions 7. Scopes 8. Arrays 9. Objects 10. Class 11. Inheritance 12. Callbacks 13. Promises 14. Async/await 15. jQuery basics 16. Selectors	2	CHROME Browser

		17. Filters 18. Events 19. Event handling 20. Functions in jQuery 21. Traversing 22. jQuery methods 23. Ajax		
	Capstone Project			
	<p>Synopsis: The project aims to build a responsive, user-friendly web application where students can view upcoming campus events, register for activities, and access academic resources. The application will be developed progressively, starting with static HTML, CSS, and Bootstrap for layout and styling. JavaScript will be used to add interactivity, followed by Angular for building dynamic, component-based pages. The backend will be implemented in Java to handle business logic and data management, while Node.js will provide APIs for communication between the frontend and backend. The final solution will allow user authentication, event management, and seamless integration between all components.</p> <p>Milestone 1 – Static Web Foundation (HTML, CSS, Bootstrap) Create a responsive homepage with: Event listings (static cards) Navigation bar About section Use Bootstrap grid system for layout and components like navbar, cards, and buttons.</p>			
03	JAVA	1. Core Java (Multi-threading, Exception Handling, Util Logging, JDBC) 2. Lambdas (Functional Interfaces, Default and Static Functions, etc.) 3. Maven 4. SpringBoot 5. Web Services 6. Drools	4 – 5	ECLIPSE IDE JAVA V.21

	Milestone 2 – Interactivity with JavaScript Add dynamic features: Show/hide event details Simple form validation for event registration Sorting/filtering events (client-side) Introduce JavaScript DOM manipulation and event handling.			
04	Angular 14+	<ol style="list-style-type: none"> 1. Introduction to Angular 2. Setting up the Development Environment (Node.js, npm, Angular CLI) 3. Creating and Running an Angular Application 4. Angular Project Structure Overview 5. TypeScript Basics for Angular 6. Components and Templates 7. Data Binding (Interpolation, Property Binding, Event Binding, Two-way Binding) 8. Directives (Structural and Attribute) 9. Pipes (Built-in and Custom) 10. Services and Dependency Injection 11. Routing and Navigation 12. Modules (Root and Feature Modules) 13. Forms (Template-driven Forms, Reactive Forms) 14. Form Validation 15. HTTP Client and API Communication 16. Observables and RxJS Basics 17. Lifecycle Hooks 18. Component Interaction (Input, Output, ViewChild) 19. Change Detection Strategy 20. Angular Material and UI Components 21. Styling and Theming in Angular 	6-7	Nodejs Angular CLI POSTMAN VS CODE Editor

		22. State Management (BehaviorSubject, Services; Intro to NgRx) 23. Lazy Loading Modules 24. Error Handling in Angular		
	Milestone 3 – Enhanced UI with jQuery (Optional bridge for DOM handling) Use jQuery to simplify: Element selection & animations AJAX calls to load sample event data from a JSON file			
05	Node JS	1. Introduction to Node.js and Features 2. Installing Node.js and npm 3. Running JavaScript in Node.js 4. Modules (Built-in, Custom, Third-party) 5. Working with npm 6. File System Module Basics 7. HTTP Module – Creating a Simple Server 8. Asynchronous Programming (Callbacks, Promises, Async/Await) 9. Express.js Basics and Routing 10. Working with REST APIs in Node.js 11. Connecting to a Database 12. Basic Error Handling	8 - 9	
06	C#	1. DataTypes 2. Nullable Types 3. Access Modifiers 4. Structures 5. Copy Constructors 6. File Handling 7. Exception Handling 8. Events 9. Collections	10 -11	Visual Studio IDE <i>(Alternatively, we can use VS Code with necessary ad-ons)</i>

		10. LinQ 11. Design Concepts 12. Asynchronous Calls (Async & Await & Tasks) 13. Multi Threading		
07	Asp.Net	1. Introduction to ASP.NET 2. Development Environment Setup 3. ASP.NET Core Basics 4. MVC Architecture 5. Razor Syntax and Views 6. Data Access in ASP.NET 7. Form Handling and Validation 8. Dependency Injection 9. Security and Authentication 10. Web APIs in ASP.NET 11. State Management 12. Deployment	12	DotNet SDK
	Milestone 4 – Angular Single Page Application Convert static pages into Angular components. Create: Event list component Event detail component Registration form with validation Implement routing for navigation without full page reload.			
08	Flutter	1. Dart Basics & Fundamentals 2. The Entry Point: void main() 3. Dart Variables: Numbers, Strings, and Booleans 4. String Interpolation 5. Lists: Dynamic Arrays in Dart 6. Maps: Key-Value Pairs	13-14	

		7. Functions in Dart 8. Null Safety and Null Aware Operators 9. Classes: Blueprint for Objects 10. Named Constructors 11. Widgets: Stateless, Stateful 12. UI Elements: Container, Stack, Column, Row, SizedBox, ConstraintBox 13. ListView, GridView 14. Riverpod – Basic Knowledge 15. API Call – Basic Knowledge		
	Milestone 5 – Backend with Java (Spring Boot or similar) Build a backend to manage events and registrations. Implement APIs to: Fetch event list Submit registration form data Store data in a simple database (e.g., MySQL, H2).			
09	Power BI	1. Power Query (M Query) 2. Dataflows 3. Semantic Model & Calculated Columns, Tables 4. DAX (Calculations, Measures, Functions, etc.) 5. Dashboards and Paginated Reports 6. Publishing Reports to Workspace	15 - 16	Power BI School or work email for accessing Power BI Online services
	Milestone 6 – Node.js API Layer Create Node.js Express APIs to demonstrate: Middleware usage API endpoints for events & registrations Returning JSON data to the Angular frontend			
10	Azure Fundamentals	1. Storage Accounts 2. Table Storage	17 - 18	Microsoft Azure Account

		3. Function Apps 4. Logic Apps 5. Messaging Concepts – Event Hubs and Partitions 6. APIM, Key Vault 7. Active Directory 8. Azure DevOps – CI/CD 9. Repositories (Pull Requests, Resolve Conflicts, Merge) 10. Branching		(free Azure account: https://azure.microsoft.com/free)
	Milestone 7 – Final Integration & Deployment Connect Angular frontend with backend APIs (Java and/or Node.js). Deploy the application locally and optionally on a cloud platform (Heroku, Render, etc.).			
11	Testing	1. TDD 2. BDD 3. Unit Testing 4. Nunit 5. Junit 6. Cypress 7. Cucumber 8. Gherkin 9. Karate	19	
12	ETL	Introduction and Discussion	19	
13	END of Training	Final Evaluation	20	

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