# Course Highlights

### Online Courses and Classes
Offer a wide range of online courses on various subjects, skill sets, and academic levels. These courses can include video lectures, quizzes, assignments, and interactive discussions.

### Live Webinars and Virtual workshops
Offer a wide range of online courses on various subjects, skill sets, and academic levels. These courses can include video lectures, quizzes, assignments, and interactive discussions.

### Skill Development and Training
Offer skill-specific training programs, such as coding, language learning, digital marketing, and more.

### Personalized Learning
Develop adaptive learning platforms that adjust the content and difficulty level based on a student's progress and performance.

### Certification and Accreditation
Provide certification courses that lead to recognized qualifications, which can enhance a learner's resume or professional credentials

# CURRICULUM

**Month 1:**

### 1. Introduction to Front-End Development:
Front-End Understanding how the web works
Introduction to HTML, CSS, and JavaScript
HTML Fundamentals

### 2. Basic structure of HTML documents
Working with tags, attributes, and semantic elements
CSS Basics

### 3. Styling HTML elements with CSS
Selectors, properties, and values
Box model and layout
JavaScript Essentials

### 4. Variables, data types, and operators
Control structures: conditionals and loops
Functions and scope

### 5. Introduction to Back-End Development
Server-client architecture
Basics of HTTP and APIs
Introduction to Node.js
Setting up Node.js environment
Modules, NPM, and package.json
Building a Simple Server

## 6. CSS Preprocessors and Styling Frameworks:

Introduction to Sass/SCSS
Variables, mixins, and nesting
Using CSS frameworks like Bootstrap

## 7. Front-End Frameworks (e.g., React):

Setting up a React application
Components, props, and state
React Router for navigation

## 8. State Management with Redux::

Redux principles and concepts
Actions, reducers, and the store
Connecting Redux to a React app

## 9. Advanced Front-End Concepts:

Context API for state management (in addition to Redux)
CSS-in-JS libraries (e.g., styled-components)
Performance optimization techniques

## 10.Front-End Testing

Unit testing with Jest and React Testing Library
Testing components and hooks
Integration testing for complex scenarios

**Month 2:**

### 11.Introduction to Back-End Development:
Back-End Basics (Node.js and Express.js):
Introduction to Node.js and server-side programming
Setting up an Express.js server
Routing, middleware, and error handl

### 12. RESTful API Design and Development:
Setti - Principles of RESTful architecture
Designing API endpoints and resources
CRUD operations and request handling

### 13. Authentication and Authorization:
User authentication using JWT
Role-based access control
Securing API endpoints and routes

### 14. Databases and SQL:
Relational database concepts
Creating and querying databases using SQL
Database design and normalization

### 15. NoSQL Databases and MongoDB:
Introduction to NoSQL databases
MongoDB installation and CRUD operations
Mongoose ODM for MongoDB integration

## 16 Advanced Database Concepts:

Database indexing and optimization
Transactions and ACID properties
Connecting to multiple database types (SQL and NoSQL)

## 17 API Testing and Validation:

Writing unit tests for API endpoints
Validating requests and responses
Testing tools like Postman and Jest

## 18 Server-Side Validation and Error Handling:

Data validation and sanitization
Handling and reporting errors gracefully
Implementing custom error handling middleware

## 19 Server Management and Deployment:

Hosting options (VPS, cloud platforms)
Deploying a Node.js app to a server
Managing environment variables and configuration

## 20 Version Control with Git:

Understanding Git concepts (commits, branches, merges)
Collaborative workflows (feature branches, pull requests)
Resolving conflicts and code reviews

**Month 3:**

### 21.Web Security Principles::
Common web vulnerabilities (XSS, CSRF, SQL injection)
Best practices for securing web applications
Implementing security headers

### 22. Front-End Build Tools (Webpack):
Introduction to Webpack and its role
Configuration and optimization
Bundling assets and code splitting

### 23. Continuous Integration and Deployment (CI/CD):
Setting up automated builds with CI tools
Automating testing and deployment pipelines
Deploying to various environments (development, staging, production)

### 24. Microservices Architecture:
Understanding microservices and monoliths
Communication between microservices
Scaling and load balancing

### 25. Containerization with Docker:
Introduction to Docker and container concepts
Creating Docker images and containers
Docker Compose for managing multi-container applications

## 26. Front-End Performance Optimization:

Optimizing asset loading and caching
Lazy loading and code splitting
Performance auditing tools (Lighthouse, PageSpeed Insights)

## 27. Real-Time Communication (WebSockets):

Introduction to WebSockets
Setting up real-time communication
Building a real-time chat application

## 28. GraphQL Fundamentals:

Introduction to GraphQL and its advantages
Creating GraphQL schemas and resolvers
Querying data using Graph

## 29. Serverless Architecture:

Understanding serverless concepts
Building serverless APIs with AWS Lambda
Pros and cons of serverless architecture
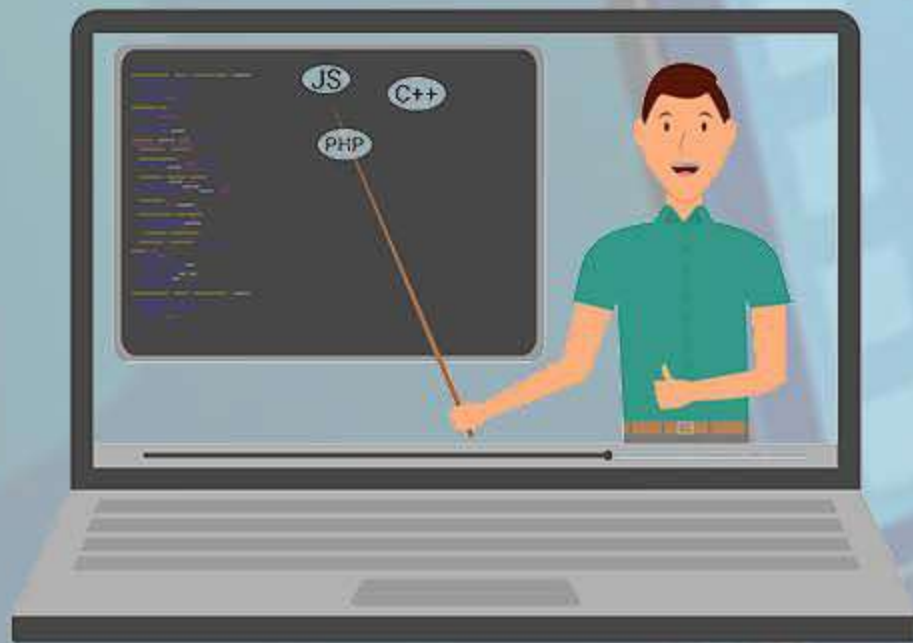
## 30. Advanced Testing and Debugging:

Integration testing with tools like Supertest
Debugging performance issues and memory leaks
Load testing and stress testing

3 months of program

Practical learning

3 Certificates

75+ MNC's tied up

# ELEGANT CLASSES

## Resume building

## Interview Preparation

## Workshop & Bootcamps

## Activation of Job portals