**Programmer’s DEN**

“Practical Knowledge > Theoretical Knowledge”

MEAN (MongoDB, Express, Angular, Node JS) Batch Contents: -

Module 1:

* History of TypeScript/JavaScript Programming Language
* Features of TS/JS Programming Languages
* Toolchain of TS/JS Programming Languages
* Installation of Node JS for TypeScript and JavaScript, VS CODE

Module 2: Programming in TypeScript/JavaScript

* Datatypes in TS/JS
* Variable Declaration in TS/JS
* Flow Control Statements (loops) in TS/JS
* Selection Statements (if else if ladder, Switch case) in TS/JS
* Functions in TS/JS
* Various Types of Parameters in TS/JS
* Constants in TS/JS
* Packages in TS/JS
* Import/Export in TS/JS
* I/O Operations in TS/JS
* Arrays in TS/JS
* Object Orientation Programming/Concepts in TS/JS
* String Class in TS/JS
* Inferred Typing in TS/JS

Module 3: Frontend Web Development using Angular Framework

* History of Angular Web Framework
* Installation of Angular Web Framework with the help of Node JS
* Angular Project Structure
* Creation and Execution Flow of Angular Project
* Components in Angular
* Modules in Angular
* Services in Angular
* Pipes in Angular
* Directives in Angular
* Various Types of Data Binding in Angular
* Intercomponent Communication in Angular
* Inline Template (HTML) and Inline Styles (CSS) in Angular
* HTTP & Observables, RxJS(Reactive Extensions for JavaScript) in Angular
* Routings in Angular
* Route Parameters in Angular
* Authentication Using Angular Auth Guards.
* Angular Forms (Reactive Form, Template-Drive Form)
* Lazy Loading Concept in Angular
* Use of Bootstrap in Angular Application for Styling Purpose of Frontend
* Use of Material Design in Angular Application for Styling Purpose of Frontend.
* Angular Life Cycle Hooks
* Testing of Angular Applications

Module 4: Backend Web Development using Node JS, Express and MongoDB (For Database).

* History of Node JS (JavaScript Runtime Environment)
* Installation of Node JS, Express and MongoDB
* Installation of MongoDB Compass (GUI To perform operation on Data present in MongoDB Database)
* Use of Node JS For Backend web development
* Use of Express (JavaScript Library) to create Servers to connect Angular with Node JS.
* Use of mongoose (JavaScript Library) to Connect Node JS with MongoDB
* CRUD Operations in MongoDB using Node JS and Then Sending Data to Angular (Frontend of Our MEAN Project)
* Use of JWT (Json Web Token in our MEAN Stack Project)

Module 5: Deployment of MEAN Project on Live Servers Using various web Services.

* Use of Various Web Services Provided by AWS (Amazon Web Services)
* Deployment of Our Frontend (Angular) of Our MEAN Project using Amazon’s “S3 Bucket” Web Service.
* Deployment of Node JS and Express Server using Render Web Service
* Use of MongoDB Atlas for Live Database Connections
* Use MongoDB Compass to connect with MongoDB Atlas Cloud to monitor database and to perform database operations easily.

Note:

* You Have To Do Parallel Programming During Class With Teacher For Better Understanding of above Concepts.