

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2025 - 2026)

Subject: Web Development using MEAN Stack

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

(1.1) Choose the extension that is used to save the Node.js files. (CO1, K1)

1

- (a) .js
- (b) .node
- (c) .java
- (d) .txt

(1.2) Select the function that is used to include modules in Node.js. (CO1, K1)

1

- (a) include();
- (b) require();
- (c) attach();
- (d) all of the Above

(1.3) CRUD stands for.....(CO2, K1)

1

- (a) Create, Read, Update and Delete
- (b) Create, Receive, Update and Delete
- (c) Create, Retrieve, Use and Delete
- (d) Create, Read, Update and Deprecate

(1.4) Select the HTTP method that should be used to delete resource using RESTful web service(CO2,K1)

1

- (a) GET
- (b) POST
- (c) DELETE
- (d) OPTIONS

- (1.5) Select the number of main components that constitute TypeScript.(CO3, K2) 1
- (a) 3
 - (b) 4
 - (c) 5
 - (d) 6
- (1.6) TypeScript is the typed superset of.(CO3,K1) 1
- (a) C#
 - (b) Nodejs
 - (c) JavaScript
 - (d) AngularJS
- (1.7) Controller in MVC is.(CO4,K1) 1
- (a) It is a software Code that controls the interactions between the Model and View
 - (b) It is a software Code that stores the data
 - (c) It is a software Code that renders the user interface
 - (d) all of the above
- (1.8) Select the use of Angular Controllers in the application.(CO4,K1) 1
- (a) Angular controllers are used for controlling the data.
 - (b) Angular controllers are used for displaying the data.
 - (c) Both of the above are correct.
 - (d) None of the above is correct.
- (1.9) Choose correct one for Sub document in MongoDB data modeling.(CO5,K1) 1
- (a) A way to group related data together in a single document
 - (b) A way to create a foreign key relationship between two documents
 - (c) A way to add additional metadata to a document
 - (d) All of the above
- (1.10) Some common examples of NoSQL databases.(CO5,K1) 1
- (a) MySQL, Oracle, and PostgreSQL
 - (b) MongoDB, Cassandra, and Redis
 - (c) Hadoop, Hive, and Spark
 - (d) All of the above

2. Attempt all parts:-

- (2.1) Define Node.js and explain the types of applications that make effective use of it.(CO1,K3) 2
- (2.2) Define the term Express.js Routing.(CO2, K1) 2
- (2.3) Define why should we use typescript.(CO3,K2) 2
- (2.4) Explain only two features of angular js.(CO4,K2) 2
- (2.5) Define schema in Mongoose.(CO5,K3) 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Explain various advantages of Node.js.(CO1,K2) 6

(3.2)	List the difference between Node.js and Java Script.(CO1,K2)	6
Answer any one of the following:-		
(3.3)	Explain Configuration of Express and Environment Variables.(CO2,K2)	6
(3.4)	Explain the characteristics of Express.js in detail.(CO2,K3)	6
Answer any one of the following:-		
(3.5)	Does TypeScript support function overloading.(CO3,K3)	6
(3.6)	Explain how to define parameter in typescript?Explain its all types.(CO3,K4)	6
Answer any one of the following:-		
(3.7)	Discuss angular expression with example.(CO4,K3)	6
(3.8)	Analyze how AngularJS achieves the Model-View-Controller (MVC) architecture in application development.(CO4,K4)	6
Answer any one of the following:-		
(3.9)	Discuss replication in MongoDB and how does it improve availability and reliability of the database.(CO5, K4)	6
(3.10)	Describe indexes in Mongoose, and explain with example to define them in a schema.(CO5,K5)	6
<u>SECTION-C</u>		50
4. Answer any <u>one</u> of the following:-		
(4.1)	What are the different types of HTTP requests.(CO1,K3)	10
(4.2)	Explain Node.js File System Module. Which operations can be performed with the help of this module?(CO1,K3)	10
5. Answer any <u>one</u> of the following:-		
(5.1)	Examine the difference between Express.js and Node.js along with code. (CO2, K4)	10
(5.2)	Describe URL binding in Expressjs.(CO2, K3)	10
6. Answer any <u>one</u> of the following:-		
(6.1)	List some features of Typescript and explain each in brief.(CO3,K3)	10
(6.2)	Explain the use of import and export in TypeScript.(CO3,K4)	10
7. Answer any <u>one</u> of the following:-		
(7.1)	Discuss AngularJS Forms & Forms validation with example.(CO4,K4)	10
(7.2)	Discuss Angular js filter with suitable example.(CO4,K4)	10
8. Answer any <u>one</u> of the following:-		
(8.1)	Assess MongoDB Create Collection along with its implementation . (CO5, K5)	10
(8.2)	Describe Data Validation, and explain its importance about implementing it with an Angular-MongoDB API connection.(CO5,K2)	10