

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

**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA**

**(An Autonomous Institute Affiliated to AKTU, Lucknow)**

**B.Tech**

**SEM: VI - THEORY EXAMINATION- (2023 - 2024)**

**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-a. Select the command that is used to install the Node.js express module. (CO1) 1
- (a) \$ npm install express
  - (b) \$ node install express
  - (c) \$ install express
  - (d) None of the above
- 1-b. Choose the following extension is used to save the Node.js files. (CO1) 1
- (a) .js
  - (b) .node
  - (c) .java
  - (d) .txt
- 1-c. Express.js is written in which of the following language. (CO2) 1
- (a) Python
  - (b) Node.js
  - (c) JavaScript
  - (d) C++
- 1-d. Choose the correct command to install Express in the my app directory.(CO2) 1
- (a) \$ npm install express
  - (b) \$ npm install --express
  - (c) \$ npm install --express.js

- (d) node install express.js
- 1-e. The benefits of Typescript are....(CO3) 1
- (a) It helps in code structuringB.
  - (b) Use class based object oriented programming
  - (c) Impose coding guidelines
  - (d) All of the above
- 1-f. According to Grady Brooch, every object must have \_\_\_\_\_ features.(CO3) 1
- (a) 1
  - (b) 2
  - (c) 3
  - (d) 4
- 1-g. Select the correct meaning of Data Binding in AngularJs. (CO4) 1
- (a) Synchronization between model part and view part
  - (b) Synchronization between model part and controller part
  - (c) Synchronization between controller part and view part
  - (d) None of the above
- 1-h. AngularJs is used in.(CO4) 1
- (a) Model
  - (b) Controller
  - (c) Modules
  - (d) View
- 1-i. Primary unit of data modeling in MongoDB (CO5) 1
- (a) Tables
  - (b) Row
  - (c) Documents
  - (d) None of the above
- 1-j. Choose from the below about Denormalization in Data Modeling (CO5) 1
- (a) The process of breaking down large tables into smaller ones
  - (b) The process of creating a single table for all related data
  - (c) The process of duplicating data across multiple documents for improved query performance
  - (d) None of the above
2. Attempt all parts:-
- 2.a. Explain an Event Loop in Node.js. (CO1) 2
- 2.b. Briefly explain about postman.(CO2) 2
- 2.c. Illustrate what are the benefits of typescript.(CO3) 2
- 2.d. Explain 2 types of data binding in your words. (CO4) 2

2.e.	Differentiate between RDBMS and MongoDB. (CO5)	2
<b>SECTION-B</b>		<b>30</b>
3. Answer any <u>five</u> of the following:-		
3-a.	List some commonly used features of Node.js.(CO1)	6
3-b.	Explain Full-Stack Web Development and its applications in detail. (CO1)	6
3-c.	Explain express.static() function with the help of example. (CO2)	6
3-d.	Write down the characteristics of Express.js in detail. (CO2)	6
3.e.	The static member can be define by static keyword in typescript explain it. (CO3)	6
3.f.	Illustrate all the features of angular.js in details. (CO4)	6
3.g.	Explain the purpose of data types in Mongoose, and provide examples of commonly used data types. (CO5)	6
<b>SECTION-C</b>		<b>50</b>
4. Answer any <u>one</u> of the following:-		
4-a.	Name various types of applications that use Node.js. Explain at-least six in detail. (CO1)	10
4-b.	Explain asynchronous and non-blocking APIs in Node.js.(CO1)	10
5. Answer any <u>one</u> of the following:-		
5-a.	Show the process to redirect to generated URL with Express.js explain with code in detail. (CO2)	10
5-b.	Write a proper code to get POST a query in Express js.(CO2)	10
6. Answer any <u>one</u> of the following:-		
6-a.	How to import and export a module in programing concept justify this with example. (CO3)	10
6-b.	Explain typescript function ,function declaration, function definition and function call .(CO3)	10
7. Answer any <u>one</u> of the following:-		
7-a.	Define Template-Driven Approach and Reactive-Driven Approach in details.(CO4)	10
7-b.	Explain Angular js Tables with example display it with order by filter.(CO4)	10
8. Answer any <u>one</u> of the following:-		
8-a.	Compare and contrast the key differences between SQL and NoSQL in details. (CO5)	10
8-b.	Justify how to combine the API with an Angular application, and what tools and libraries can you use to make HTTP requests to the API.(CO5)	10