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.*

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SECTION A　　　　　　　**20**
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1. Attempt all parts:-

1-a.　　　NPM Stands for......(CO1)　　　　　　　　　　　　　　　　1

　　　　　　(a) Node Project Manager

　　　　　　(b) Node Package Manager

　　　　　　(c) New Project Manager

　　　　　　(d) New Package Manager

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.   In order to use Mongo with Express, we need a client API for node.(CO2)   1

    (a) TRUE

    (b) FALSE

    (c) Can be true or false

    (d) None

1-e.   Select command to compile a module.   (CO3)   1

    (a) tsc-m amd mymodule.ts

    (b) tsc--module amd mymodule.ts

    (c) Both a and b

    (d) None ofthe above

1-f.   Rest parameter used in a function........................(CO3)   1

    (a) the type of parameter is not known

    (b) the function is called recursively

    (c) the function needs to be executed asynchronously

    (d) the number of parameters is not known

1-g.   AngularJs is based on.(CO4)   1

    (a) MVC Architecture

    (b) MVVM Architectural pattern

    (c) Decorator pattern

    (d) Observer Pattern

1-h.   The controller take the single parameter.(CO4)   1

    (a) $controller

    (b) ^scope

    (c) $scpoe

    (d) None of these

1-i.   Primary unit of data modeling in MongoDb (CO5)   1

    (a) Tables

    (b) Row

    (c) Documents

    (d) None of the above

1-j.   Categories of NoSQL databases is.......(CO5)   1

    (a) 1

(b) 2

(c) 4

(d) 3

2. Attempt all parts:-

2.a.	Illustrate Graph QL.(CO1)	2
2.b.	Relate the term Express.js Routing.(CO2)	2
2.c.	Define power of types in your words.(CO3)	2
2.d.	Define model view in MVC.(CO4)	2
2.e.	Explain various types of SQL databases.(CO5)	2

SECTION B   **30**

3. Answer any <u>five</u> of the following:-

3-a.	List the differences between the global installation of dependencies and local installation of dependencies.(CO1)	6
3-b.	Explain the difference between events and callbacks in Node.js.(CO1)	6
3-c.	Describe Environmental Variable and its types. (CO2)	6
3-d.	Write down the advantages of Express.js.(CO2)	6
3-e.	Explain Decorators in TypeScript.(CO3)	6
3-f.	Explain architectures of angular js with diagram.(CO4)	6
3-g.	Write down the all features sets of mongoDB in details.(CO5)	6

SECTION C   **50**

4. Answer any <u>one</u> of the following:-

4-a.	Why is Node.js preferred over other backend technologies like Java and PHP. (CO1)	10
4-b.	Explain the concept of middleware in Node.js.(CO1)	10

5. Answer any <u>one</u> of the following:-

5-a.	Explain REST full API's in detail with suitable diagram.(CO2)	10
5-b.	Mention and describe HTTP Method of Express.(CO2)	10

6. Answer any <u>one</u> of the following:-

6-a.	TypeScript is a free and open-source programming language, justify this statement in your words.(CO3)	10
6-b.	List some features of Typescript and explain each in brief.(CO3)	10

7. Answer any <u>one</u> of the following:-

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7-a.	Explain Angular js AJAX . What are two different APIs to handle Ajax requests explain with example.(CO4)	10
7-b.	Discuss AngularJS Forms & Forms validation with example.(CO4)	10

8. Answer any <u>one</u> of the following:-

8-a.	Write steps for MongoDB Environment Setup and how to Install MongoDB on Windows.(CO5)	10
8-b.	Comparation between a model and a schema in Mongoose.(CO5)	10