GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3161611   **Date:05-12-2024**

Subject Name:Advanced Web Programming

Time:02:30 PM TO 05:00 PM   **Total Marks:70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	What do you mean by responsive design? Explain with suitable example.	**03**
	(b)	Explain asynchronous programming in detail.	**04**
	(c)	Explain the steps to implement routing using Angular JS with suitable example.	**07**
Q.2	**(a)**	Explain various services available in Angular JS with suitable example.	**03**
	(b)	Explain various form validation states available in Angular JS.	**04**
	(c)	Define filter in Angular JS. Briefly explain various inbuilt filters available in Angular JS.	**07**
		OR	
	(c)	Define module in Angular JS. Explain how to define and use module in Angular JS.	**07**
Q.3	**(a)**	Create a Single Page Application for searching and requesting books from library.	**03**
	(b)	Explain the concepts of callback in Node JS with suitable example.	**04**
	(c)	Define Node Package Manager (NPM)? Explain the process of installing, upgrading and uninstalling module using npm.	**07**
		OR	
Q.3	**(a)**	Define directive in Angular JS. Explain ng-bind and ng-blur in detail.	**03**
	(b)	Enlist and explain features of Node JS.	**04**
	(c)	Write Node JS code to print values of query string variables Email and Mobile from the following URL. http://localhost:8080/?Email=xyz@gmail.com&Mobile=1234567890	**07**
Q.4	**(a)**	Explain error handling in Node JS with suitable example.	**03**
	(b)	Write short note on timers in Node JS.	**04**
	(c)	Write a Node JS code to create a server that will write a log of visited pages in a log.txt file.	**07**
		OR	
Q.4	**(a)**	Explain the following terms in Node JS. 1) Caching 2) Scalability	**03**
	(b)	Explain Node JS REST API in detail.	**04**

	(c)	Define stream in Node JS. Write node JS code to read from stream.	**07**
Q.5	**(a)**	List the differences between NoSQL and relational databases.	**03**
	(b)	Explain the followings in MongoDB. 1) Replication 2) Scaling	**04**
	(c)	Write code to perform the following operations on students collection having key field rollno and name using Node.js and MongoDB. 1) insertOne() 2) insertMany() 3) deleteOne() 4) deleteMany()	**07**

OR

Q.5	**(a)**	Enlist and explain features of MongoDB.	**03**
	(b)	Explain the following operations on data using Node JS. 1) Sort 2) Query 3) Find 4) Update	**04**
	(c)	Consider a GTU database and Student Collection with fields: name, age, course and grades. Write code to perform following operation on Student collection using Node.js and MongoDB. 1) Find all students within the age range of 20 to 22 2) Find all the students having course AWP	**07**

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