

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3161611****Date:24-05-2024****Subject Name: Advanced Web Programming****Time: 10:30 AM TO 01:00 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**

<b>Q.1</b>	(a) Discuss any three JavaScript inbuilt objects.	<b>03</b>
	(b) Discuss the DOM tree and DOM methods in brief.	<b>04</b>
	(c) Explain different types of CSS with examples and their advantages.	<b>07</b>
<b>Q.2</b>	(a) Discuss any two services available in Angular JS.	<b>03</b>
	(b) Discuss the different advantages and disadvantages of Angular JS.	<b>04</b>
	(c) Discuss MVC architecture in Angular JS with a suitable example.	<b>07</b>
<b>OR</b>		
	(c) Write a JavaScript program for password verification.	<b>07</b>
<b>Q.3</b>	(a) Discuss the usage of \$valid and \$invalid.	<b>03</b>
	(b) Explain the use of the ng-bind and ng-model directives with a suitable example.	<b>04</b>
	(c) Write an Angular JS program that takes a number as an input and displays whether it is positive, negative, or zero.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Discuss the usage of the ng-hide and ng-click directives.	<b>03</b>
	(b) Discuss \$pristine and \$dirty used for form validation in Angular JS.	<b>04</b>
	(c) Explain one way data binding with a suitable Angular JS example.	<b>07</b>
<b>Q.4</b>	(a) Discuss the process of installing packages in the Node JS environment.	<b>03</b>
	(b) Explain the singleton design pattern with an example.	<b>04</b>
	(c) Explain the concept of callbacks in Node JS with a suitable example.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Discuss the usefulness of the Express framework in a Node JS environment.	<b>03</b>
	(b) Discuss the concept of timers in Node JS in detail.	<b>04</b>
	(c) Explain the concept of an event emitter with a suitable example.	<b>07</b>
<b>Q.5</b>	(a) Discuss various features of Node JS.	<b>03</b>
	(b) Discuss connection operations between Node JS and MongoDB.	<b>04</b>
	(c) Explain deletion database operations using Node JS and MongoDB.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Discuss the various data types used in MongoDB.	<b>03</b>
	(b) Discuss NoSQL databases in brief and also differentiate between NoSQL and relational databases.	<b>04</b>
	(c) Discuss the process of configuring routing information using Angular JS.	<b>07</b>

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