

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3630

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Unique Paper Code : 6332492401

Name of the Paper : Full Stack Web Development - 1

Name of the Course : **B.Voc (Web Designing) (NEP-UGCF)**

Semester : IV

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Section A is compulsory.
3. Attempt any four questions from Section B.
4. Parts of a question must be answered together.

Section A

- Q1.**
- | | |
|---|---|
| (a) What is indexing in MongoDB? Discuss how indexes improve query performance. | 5 |
| (b) Explain the concept of event handling in jQuery. How can multiple events be attached to an element? | 5 |
| (c) Discuss the difference between hide(), show(), and toggle() methods in jQuery. | 5 |
| (d) What is JSON, and why is it commonly used in AJAX-based web applications? | 5 |
| (e) Explain the purpose of Angular directives. Differentiate between structural and attribute directives with examples. | 5 |
| (f) Describe the aggregation framework in MongoDB and explain its importance in data analysis. | 5 |

Section B

- Q2. (a) Explain any three types of selectors used in jQuery with appropriate examples. 9
- (b) How can method chaining be implemented in jQuery? Write a script demonstrating chained actions on an HTML element. 6
- Q3. (a) Discuss the purpose of @Input and @Output decorators in Angular and explain their usage with examples. 7
- (b) What are Angular components? Explain how to generate a component using Angular CLI with a suitable example. 8
- Q4. (a) Differentiate between AngularJS and Angular 2+ on the basis of architecture, performance, and features. 7
- (b) Define lifecycle hooks in Angular. Explain the working of ngOnInit and ngOnDestroy using examples. 8
- Q5. (a) Describe how the find() method is used in MongoDB to retrieve documents from a collection. Give an example. 7
- (b) Explain embedded documents in MongoDB. Compare embedded and referenced data models, highlighting their merits and demerits. 8
- Q6. (a) What is modularization in MongoDB applications? Explain how routes and controllers can be structured in an organized manner. 7
- (b) Discuss MongoDB's scalability and performance objectives. Explain the techniques MongoDB uses to accomplish them. 8
- Q7. (a) Explain the working of the animate() function in jQuery for implementing custom animations with an example. 7
- (b) Define AJAX callbacks in jQuery. How do they assist in handling asynchronous requests? Explain with an example. 8