

(Please write your Exam Roll No.)

Exam Roll No

END TERM EXAMINATION

SECOND SEMESTER [MCA] JUNE, 2024

Paper Code: MCA-114

Subject: Full Stack Development

Time: 3 Hours

Maximum Marks: 60

Note: Attempt all questions as directed. Internal Choice is indicated

1. Attempt any **four** of the following questions:- 4 x5=20
- (a) Define React and highlight the obstacles faced during development. Discuss the React library and its significance. 5
 - (b) Describe the steps to create the first React application using Create React App, including React with JSX and React Element as JSX. 5
 - (c) Explain the difference between ES6 Classes and stateless functional components. 5
 - (d) Describe React state management and state within the component tree. 5
 - (e) Discuss the concept of templates, interpolation, and directives in Angular. How are directives used to manipulate the DOM? 5
 - (f) Describe the process of handling forms, user input, and form validations in Angular. Explain how Angular facilitates two-way data binding in form elements. 5
 - (g) Provide an introduction to Node.js, highlighting its features and the Node.js process model. 5
 - (h) Describe the steps involved in setting up a local environment for Node.js development. What are the components of the Node.js runtime environment? 5
 - (i) Explain the concept of Node.js modules and the types of modules available. 5
 - (j) Discuss the role of Node Package Manager (NPM) in managing dependencies in Node.js projects. 5

UNIT - I

2. (a) How does ES6 enhance the manipulation of objects and arrays compared to previous JavaScript versions? Provide examples. 5
- (b) Describe the React library and its key features that make it a preferred choice for building user interfaces. 5

OR

3. (a) Elaborate on constructing elements with data and rendering them in the DOM. Give examples to justify your answer. 5
- (b) Develop a react component using the pure React code. The output must be in form of a table (No DB is required). The table must have the following details: Sr.No., Name, Enrollment Number, Programme, Semester. 5

UNIT - II

4. (a) Examine the principles and considerations involved in designing a REST API. Exemplify the process of designing an identifier. 5
- (b) Develop a module to handle the get, post, put, patch methods from the 5004 clients, for every type of request the module responds to the client the name of the method in following format: (method: Name of Method) 5

OR

5. (a) Specify React Router's classification and the integration procedure in detail. 5
- (b) Provide an exposition of your comprehension of JSON, encompassing its syntax and a suitable illustration. 5

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UNIT - III

6. (a) Depict various forms of data binding in Angular by providing pseudocode representations for each. **5**
(b) Given a student data API. Develop angular UI retrieving data using HTTP to display. **5**

OR

7. (a) Compare Synchronous and Asynchronous file system. Justify their application. **5**
Explain **5**
(b) Elucidate the concept of templates in Angular.

UNIT - IV

8. (a) Distinguish between NoSQL and RDBMS databases. Explain the purpose and use of each item. **5**
(b) Exemplify the utilization of Query objects in MongoDB. **5**

OR

9. Imagine a database structure for student management system and write a program for connecting to MongoDB from Node.js for displaying records of students. **10**

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