


RAN-2411000503033001

M.Sc. (Computer Applications) (Sem.-III) Examination October - 2025
Server Side Scalable Application (903-01)

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
 Fill up strictly the above details on your answer book

Seat No.:

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Student's Signature

SET-IV
Q.1.
MCQ
10

- Which method from the fs module allows you to read a file asynchronously?
 - fs.readFileSync
 - fs.readFile
 - fs.read
 - fs.open
- Which method is used to get file information in Node.js?
 - fs.fileStats()
 - fs.stat()
 - fs.fileInfo()
 - fs.getStats()
- Which module provides promise-based file system operations in Node.js?
 - fs
 - fs.promises
 - axios
 - express
- How do you install EJS in a Node.js project?
 - npm install ejs
 - npm install express
 - npm install axios
 - npm install fs
- What does the await keyword do inside an async function?
 - It pauses the execution of the entire program.
 - It waits for a promise to resolve or reject.
 - It makes a function synchronous.
 - It immediately executes the function.
- What is the purpose of Babel in a JavaScript project?
 - It transpiles modern JavaScript into older versions for compatibility.
 - It provides a runtime environment for executing JavaScript.
 - It optimizes code for better performance.
 - It manages dependencies and packages.
- Which state indicates a button is ready for interaction?
 - Disabled
 - Loading
 - Active
 - Inactive

8. Which Redis feature allows for efficient storage and retrieval of user data?
 - a) Lists
 - b) Sets
 - c) Hashes
 - d) Strings
9. What is the purpose of setup and teardown in testing?
 - a) To optimize performance
 - b) To initialize and clean up test environments
 - c) To compile code
 - d) To mock external services
10. When testing an Express application, which method is often used to simulate HTTP requests?
 - a) request()
 - b) supertest
 - c) fetch()
 - d) axios

Q.2. Answer the following in short (Any nine) 18

1. How do you create a command using yargs?
2. How do you read a file using fs synchronously and asynchronously?
3. What is the syntax for truncating a file with fs?
4. What is PM2 used for in Node.js?
5. How does callback chaining ensure the execution of asynchronous operations in order?
6. How does Promise chaining differ from callback chaining in Node.js?
7. When would you use `<%- %>` in an EJS template?
8. What happens if you try to update a constant declared with `const`?
9. What does the `await` keyword do in an `async` function?
10. Explain the role of Socket.io in real-time applications.
11. How can you set up authentication tests in an Express application?
12. List out the key features of chai.js.

Q.3. Do as Directed (Any 2) 14

- A. What is the difference between synchronous and asynchronous methods in the Node.js fs module?
- B. How do `fs.readFileSync` and `fs.readFile` work for reading files in Node.js? Provide a program example that reads a file using both methods.
- C. Explain the concept of promise chaining in Node.js.

Q.4. Write short notes (Any 2) 14

- A. How do ES6 arrow functions differ from traditional functions?
- B. How do `async` and `await` simplify asynchronous operations in Node.js?
- C. Describe the process of sharing a user's current location within a chat application and the challenges involved.

Q.5. Do as Directed (Any 2) 14

- A. Provide a detailed explanation of how to test asynchronous code using Mocha.
- B. Describe the process of testing a secured endpoint in an Express application with authentication.
- C. Explain advanced assertions in detail, providing examples of complex scenarios that may require them.