Faculty of Technology and Engineering

U & P U. Patel Department of Computer Engineering

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Practical List

Academic Year	:	2023-24	Semester	:	5th
Course code	:	CE382	Course name	:	Advanced Web Technology

Sr. No.	Aim	CO
1.	Create a program that declares and initializes variables of different data types (string, number, boolean) and displays their values. Write a function that takes two numbers as parameters and returns their sum.	1
2.	Create an array of numbers and perform the following operations: => Find the length of the array. => Access and display specific elements using indexing. =>Use array methods like push() ,pop(), shift(), unshift(), join(), delete(),concate(),flat(),splice() and slice() to modify the array. Create an object representing a person with properties like name, age, and gender. Implement a function that displays the person's details.	1
3.	Implement following features of ECMASCRIPT 6. • The let keyword • The const keyword • Arrow Functions • The (Spread Of) ... Operator • For/of • Map Objects • Set Objects • Classes • Promises • Symbol • Default Parameters • Function Rest Parameter	1
4.	Write a function that calculates the factorial of a given number using recursion. Create a nested function that performs a specific task and invoke it within another function. (NOTE: Implement the concept of variable scope in functions by declaring variables with different scopes (global, local) and accessing them).	1
5.	Define a class representing a vehicle with properties like make, model, and year. Implement methods to display the vehicle details and calculate the mileage.	1

	Create child classes like Car and Motorcycle that inherit from the Vehicle class and add specific properties and methods.	
6.	Use the prototype property to add a new method to an existing object constructor, such as Array or String.	1
7.	Create a JavaScript module that exports a class representing a calculator with methods to perform basic arithmetic operations. Import the module in another JavaScript file and use the calculator class to perform calculations.	1
8.	Create a JavaScript module that fetches data from an API using the fetch() function and exports the retrieved data. Create an async function getUsers(names), that gets an array of GitHub logins, fetches the users from GitHub and returns an array of GitHub users. The GitHub url with user information for the given USERNAME is: https://api.github.com/users/USERNAME. There's a test example in the sandbox. Important details: • There should be one fetch request per user. • Requests shouldn't wait for each other. So that the data arrives as soon as possible. • If any request fails, or if there's no such user, the function should return null in the resulting array.	1
9.	Implement dynamic imports using the import() function to load modules asynchronously based on certain conditions.	1
10.	Create an iterator that generates an infinite sequence of numbers and a generator that yields a sequence of even numbers. Use the iterator and generator in different scenarios.	1
11.	Write a program that demonstrates asynchronous behavior using a callback function. For example, create a function that simulates fetching data from an API and invokes a callback with the fetched data.	1
12.	Create a program that reads a file asynchronously using callbacks and displays its contents.	1
13.	Write a program that uses Promises to handle asynchronous operations. For example, create a function that returns a Promise to fetch data from an API and resolve it with the fetched data. Implement error handling using Promises by rejecting a Promise with an error message in case of failure.	1
14.	Convert a Promise-based asynchronous function into an async/await style function. For example, rewrite a function that fetches data from an API using async/await. Write a program that utilizes multiple async/await functions to fetch data from different APIs sequentially and display the combined results.	1
15.	Create Secure Server using Nodejs and ExpressJs. Note: Explore nodemon package to handle server automatically	2
16.	Create Login and Registration using ExpressJs. Note:	2,3

	• Apply Session, Cookies and JWT Token Concept. • Apply Passport.js for Authentication middleware	
17.	Create Coure page which contains University Name, Institute Name, Department Name, CoursName, CourseCode, Semester. Handle. Note: • Create Middleware to Sanitize and validate All fileds	4,5
18.	Create Email sendning Page which contains To, From, CC, BCC, Subject and Message body field. Note: • Explore How send email with attachments • Create and apply email template before sending email	4,5
19.	Create a page which ask user to upload/Download the files. Note: Explore Multer Package	5
20.	Create CRUD Operation page using ExpressJs, MongoDB and Sequelize ORM Framework	4,5,6