Roll No…….. **Total No. of Pages:02**

END TERM EXAMINATION

FIFTH SEMESTER

BACK END DEVELOPMENT

Time allowed: 1 Hour

General Instructions:

- **Follow the instructions given in each section.**
- **Make sure that you attempt the questions in order.**

SECTION-A (10x1 mark=10 marks)

(Question 1 (i) to 1(x) has four choices, out of which only one is correct, no negative marking for wrong answer)

(i) How to require package in node?

(a)using want keyword (b)using require keyword

(c) using <React> keyword (d) using CDN keyword

(ii) How to allow cors?

(a) app.use(cors()) (b) corsNode()

(iii) What is chrome's node engine called?

(a) v1 engine (b) v8 engine

(iv) H1 is an block element?(1 mark)

(a) true (b) false

(v) What is the output of following code?

```
function newValue(){
  Var y = 10;
  Var c = y++
   c  = c++;
 return c
  }
newValue()
```

(a) 11 (b) 10

(c) 12 (d)9

(vi) Node js modules can be exposed using?

(a) expose (b). module

(c) exports (d). All of the above

(vii) What is an operator in JavaScript?

(a). A symbol used to perform operations on data (b). A keyword used to control the flow of a program

(c). A function that performs a specific task (d)A variable that stores a value

(viii) Is node single threaded?

(a) false (b) true

Q1: Create a Node.js API that manages a simple todo list. The API should have two endpoints:

GET /todos: This endpoint should return a JSON array of all the todo items in the list.

Each todo item should have an id, title, and completed property.

POST /addTodo: This endpoint should create a new todo item and add it to the list. The request body should be a JSON object with a title property. The response should be a JSON object with the newly created todo item, including its id.

Q2 : **Callback Functions**: Explain how you would use callbacks to handle asynchronous code when querying a MongoDB database. Provide code examples.

Q3 :**Managing Multiple Asynchronous Operations**: Discuss how you would handle multiple asynchronous operations using callbacks. What patterns would you employ to ensure all operations complete before proceeding? Provide examples.

Q4:Given an array of strings (e.g., `["apple", "banana", "cherry"]`), use `reduce` to create a string that concatenates all the fruits, separated by commas, and ends with " and [last fruit]." For instance, the output should be "apple, banana, and cherry." Provide your solution and discuss potential pitfalls.

Q5: Suppose you have a dataset containing 1000 records and you want to implement pagination. How would you use `filter` and `map` to return only the records for the current page? Explain your approach and provide an example.

Q:6: Implement Filter method on arrays