

**THE KAVERY ENGINEERING COLLEGE**  
(An Autonomous Institution)

MCA DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

*Second Semester*

*Master of Computer Applications*

MC4201 – Full Stack Web Development

*Regulations - 2021*

*Duration : 3 Hrs*

*Maximum : 100 Marks*

**PART – A (ANSWER ALL QUESTIONS) (Marks 10\*2=20)**

| <i>Q.No</i> | <i>Questions</i>                                                 | <i>BLT</i> | <i>CO</i> | <i>Marks</i> |
|-------------|------------------------------------------------------------------|------------|-----------|--------------|
| 1.          | Explain the structure of HTML Documents.                         | UN         | 1         | 2            |
| 2.          | Write a Java script to find a factorial of a number.             | AP         | 1         | 2            |
| 3.          | Define Web Server.                                               | RE         | 2         | 2            |
| 4.          | Recall the express.json() function.                              | UN         | 2         | 2            |
| 5.          | Distinguish between SQL and NoSQL databases.                     | AN         | 3         | 2            |
| 6.          | Mention the uses of Cookies.                                     | RE         | 3         | 2            |
| 7.          | Is JSX only for React? Justify.                                  | EV         | 4         | 2            |
| 8.          | Write the differences between local storage and session storage. | AN         | 4         | 2            |
| 9.          | List the services provided by virtual private cloud.             | RE         | 5         | 2            |
| 10.         | Show how to deploy Kubernetes on AWS.                            | UN         | 5         | 2            |

**PART – B (ANSWER ALL QUESTIONS) (Marks 5\*13 = 65)**

| <i>Q.No</i> | <i>Questions</i>                                                                                                                                                                                                 | <i>BLT</i> | <i>CO</i> | <i>Marks</i> |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 11.         | a    Develop a html program to create “Registration Form” to accept name, age, data of birth, address and mobile number. The form should have register caption on the button to submit the data.<br>Or           | AP         | 1         | 13           |
|             | b    Construct a java script program to design a simple calculator to perform the following basic operations: sum, product, difference, and quotient.                                                            | AP         | 1         | 13           |
| 12.         | a    Define NodeJS. Explain about java script in the desktop with NodeJS.<br>Or                                                                                                                                  | UN         | 2         | 13           |
|             | b    Illustrate server-side rendering with templating engines in detail.                                                                                                                                         | UN         | 2         | 13           |
| 13.         | a    Create a NodeJS server using express, that perform CRUD operations for an employee salary calculation and stores them in MongoDB. The information about the user should be obtained from a HTML form.<br>Or | CR         | 3         | 13           |
|             | b    Create a simple sign up and login mechanism and authenticate the user using cookies. The user information can be stored in MongoDB and the server should be built using NodeJS and express framework.       | CR         | 3         | 13           |

|     |   |                                                                                                   |    |   |    |
|-----|---|---------------------------------------------------------------------------------------------------|----|---|----|
| 14. | a | Compare React JS and NodeJS with respect to framework, architecture, performance and scalability. | AN | 4 | 13 |
|     |   | Or                                                                                                |    |   |    |
|     | b | Examine composition and inheritance with suitable example in brief.                               | AN | 4 | 13 |
| 15. | a | Discuss the concepts of virtual private cloud and scaling in cloud computing.                     | AP | 5 | 13 |
|     |   | Or                                                                                                |    |   |    |
|     | b | Summarize virtual machines, Ethernet and switches for app implementation in cloud.                | AP | 5 | 13 |

*PART – C (Marks 1\*15 = 15)*

| <i>Q.No</i> |   | <i>Questions</i>                                                                                                                       | <i>BLT</i> | <i>CO</i> | <i>Marks</i> |
|-------------|---|----------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 16.         | a | Build a program to create a voting application using React JS. If the user is below 18 years old display user is not eligible to vote. | CR         | 4         | 15           |
|             |   | Or                                                                                                                                     |            |           |              |
|             | b | Create a docker container that will deploy a NodeJS ping server using the NodeJS image.                                                | CR         | 5         | 15           |