Oct/Nov-2025

Total No. of Questions : 5]

SEAT No. :

PE4218

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Dr. D.Y. Patil Institute of Management & Entrepreneur Development
LIBRARY

[6554]-3010

S.Y. M.C.A. (Management)

MSD 615 MJ : MERN STACK DEVELOPMENT

(2024 Pattern) (Semester - III) (Elective - V)

Time : 2½ Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw diagrams wherever necessary.***

Q1) Solve any two **[10]**

a) Implement a program using node js to handle asynchronous file operations using callbacks and promises.

b) Create a basic HTTP server in Node js that serves static files and handles GET requests.

c) Write a code example that creates a custom event emitter, triggers an event named 'data Received' and has a listener function that handles it.

Q2) Solve any two **[10]**

a) Perform CRUD operations on a "Students" collection. Write MongoDB queries to :

i) Insert a new student document

ii) Update the grade of a student named "Raju" and

iii) Delete all students who have graduated

b) Design a complete MongoDB schema for a library management system with collections :

- Books (title, author, ISBN, copies, genre)
- Members (name, email, phone, membershipDate)
- Transations (book Id, member Id, issuedate, returndate, status)

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Write queries to :

i) Add new book, member and transaction

ii) Find all books borrowed by a member

iii) Find overdue books

c) Compare and contrast SQL and NOSQL databases. Justify why MongoDB is a good fit for a MERN stack application with a specific example.

Q3) Solve any two **[10]**

a) Write express. js code to create routes for/home,/about and /contact.

b) Write an express app to handle GET and post requests.

c) Illustrate how to connect express with MongoDB to serve REST APIs.

Q4) Solve any one. **[10]**

a) What are React Hooks? Describe the purpose of the useState and useEffect hooks with examples.

b) Why is Redux used in React? Differentiate between local state and Redux.

Q5) Solve any one. **[10]**

a) Create a "To-Do List" application using the MERN stack express and MongoDB should be used a backend API and React for frontend development.

b) Develop a Restful API using express. js and MongoDB for managing product catalog. Display the product list using react as a frontend.



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