

MERN Stack Development Lab

Course Code	20CS3653	Year	III	Semester	II
Course Category	PCC	Branch	CSE	Course Type	Practical
Credits	1.5	L-T-P	0-0-3	Prerequisites	Programming with JAVA
Continuou s Internal Evaluation :	15	Semester End Evaluation:	35	Total Marks:	50

Course Outcomes

Upon successful completion of the course, the student will be able to

CO1	Apply MERN technologies to develop web applications.	L2
CO2	Implement various applications as an individual or team member	L3
CO3	Develop an effective report based on various programs implemented	L3
CO4	Apply technical knowledge for a given problem and express with an effective oral communication	L3
CO5	Analyze outputs of web based applications	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:Substantial, 2: Moderate, 1:Slight)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1														3
CO2					1				2					
CO3										2				
CO4										3				
CO5		3												

Syllabus		
Expt. No.	Contents	Mapped CO
1	Demonstration of const, let, string templates, callbacks, arrow functions, class, class-properties, methods using Java Script.	CO1,CO2,CO3, CO4,CO5
2	Use of global object, Variables, Standard input and standard output in Node JS to build application.	CO1,CO2,CO3, CO4,CO5
3	Develop Node JS Application and Implement HTTP Services in Node JS (Request and Response)	CO1,CO2,CO3, CO4,CO5
4	Implement React Elements and Components	CO1,CO2,CO3, CO4,CO5
5	Develop a Single Page Application (SPA)	CO1,CO2,CO3, CO4,CO5
6	Reading and writing to MongoDB database using APIs	CO1,CO2,CO3, CO4,CO5
7	Developing a simple CRUD application using the MERN stack	CO1,CO2,CO3, CO4,CO5
8	Case Studies: Build web applications based on the choice of student/faculty	CO1,CO2,CO3, CO4,CO5

Learning Resources
Text Books
<ol style="list-style-type: none"> 1. Node.js, MongoDB and Angular Web Development by Brad Dayley, Brendan Dayley, Caleb Dayley, 2nd edition, Perason, ISBN-13: 978-0134655536, ISBN-10: 0134655532 2. Learning React Modern Patterns for Developing React Apps, 2nd Edition, Oreilly, ISBN: 978-1-492-D5172-5
References
<ol style="list-style-type: none"> 1. Pro MERN Stack: Full Stack Web App Development with Mongo, Express, React, and Node by Vasam Subramanian, Apress; 2nd ed. edition (13 May 2019), ISBN-10 : 1484243900, ISBN-13 : 978-1484243909 2. MongoDB, React, React Native Full-Stack Fundamentals and Beyond, by Eric Bush, Zaccheus Entertainment Publication, ISBN-10 : 0997196688, ISBN-13 : 978-0997196689 3. Quick Start Guide: Build web applications with MongoDB, Express.js, React, and Node by Eddy Wilson Iriarte Koroliova, Packt Publishing, ISBN-10: 1787281086, ISBN-13: 978-1787281080 4. Beginning Node.js, Express & MongoDB Development, by Greg Lim (Author), ISBN-10 : 9811480281 5. Beginning Node.js, Basarat Syed, Apress, ISBN-10: 9781484201886 6. Learning React Functional Web Development with React and Redux by Alex Banks and Eve Porcello, Published by O'Reilly Media, Inc. , ISBN-10 : 9352135636, ISBN-13 : 978-9352135639 7. React Quickly: Painless web apps with React, JSX, Redux, and GraphQL, by Azat Mardan, Published by Manning Publications, Manning Publications, ISBN-10 : 1617293342, ISBN-13 : 978-1617293344

e-Resources and other Digital Material

4. www.w3schools.com
5. <https://www.javatpoint.com/mean-stack-tutorial>
6. <https://www.linode.com/docs/guides/mean-stack-tutorial/>
7. <https://blog.logrocket.com/mern-stack-tutorial/>