



R21 Regulations

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
 (Established by Govt. of A.P., ACT No.30 of 2008)
 ANANTHAPURAMU – 515 002 (A.P) INDIA

MASTER OF COMPUTER APPLICATIONS

| Course Code | MEAN STACK DEVELOPMENT | L | T | P | C |
|--|------------------------|----------------|---|---|---|
| 21U00310 | | 1 | 0 | 2 | 2 |
| | Semester | III | | | |
| Course Objectives: | | | | | |
| <ul style="list-style-type: none"> • To understand basic concepts of JAVASCRIPT. • To implement concepts of HTML,CSS, and REACT in developing various websites. • To design solutions to real world scenarios using NODE and EXPRESS JS. • To Analyze concepts of MONGODB. • To implement socket programming in MERN stack. | | | | | |
| Course Outcomes (CO): Student will be able to | | | | | |
| <ul style="list-style-type: none"> • Understand basic concepts of JAVASCRIPT. • Implement concepts of HTML,CSS, and REACT in developing various websites. • Design solutions to real world scenarios using NODE and EXPRESS JS. • Analyze concepts of MONGODB. • Implement socket programming in MERN stack. | | | | | |
| UNIT – I | | Lecture Hrs:10 | | | |
| Introduction: data types ,logical operations, functions, object and classes, promise async& await, modules and npm packages, error handling, Document Object module, J Query. | | | | | |
| UNIT – II | | Lecture Hrs:10 | | | |
| HTML CSS and REACT : Basic structure of a webpage, Different types of tags , HTML text fundamentals, Creating hyperlinks, Insertion of images and multimedia, Introduction CSS, CSS-selector –internal- external , CSS- inline class background font text colour, CSS-padding margin border, Installation of react , REACT- virtual DOM, REACT-JSX, REACT-components, REACT-prop and state , REACT – lifecycles. | | | | | |
| UNIT – III | | Lecture Hrs:10 | | | |
| Node and Express JS : Introduction of Node JS (Run time environment), Node JS installation, Node JS web based example (import required modules ,create server,read request and return response), Node JS – npm ,errors, crypto, Node JS – child process ,buffer, string, Node JS- string decoder ,query string , Node JS- callbacks , events, web modules, Introduction of APIs, Express JS – introduction , Express JS- installation, Express JS – GET, POST, REQUEST, RESPONSE, Express JS- Routing ,file upload, cookies, middleware . | | | | | |
| UNIT – IV | | Lecture Hrs:10 | | | |
| MongoDB: Introduction of MongoDB, Difference between SQL and NoSQL, MongoDB data types, MongoDB installation, Data modelling in MongoDB, Create database, Drop Database, Create collection, Insert document, Select document, Queries in MongoDB, Sorting data in document, Remove document. | | | | | |
| UNIT - V | | Lecture Hrs:10 | | | |
| Socket programming in MERN stack : Connect the react to node by axiom, Import required module, Create server in node, Connect the Node JS to MongoDB, Create request , Read Response, Full Stack Project. | | | | | |
| Textbooks: | | | | | |
| <ol style="list-style-type: none"> 1. Getting MEAN with MONGO, Express angular and node by Simon Holmes, Dreamtech Publishers 2. Pro MERN Stack: Full Stack Web App Development with Mongo, Express, React, and Node Paperback – 1 April 2017 by Vasam Subramanian (Author) 3. Beginning MERN Stack: Build and Deploy a Full Stack MongoDB, Express, React, Node.js App by Greg Lim (Author) 4. Full Stack JavaScript Development with MEAN by COLIN J Ihrig and Adam J bretz.Sitepoint publishers | | | | | |