ANURAG ENGINEERING COLLEGE

(An Autonomous Institution)

II Year B.Tech. CSE - II Sem	**L** **T** **P** **C**		
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(CS409PC) NODE JS/ REACT JS / DJANGO

Prerequisites:

1. Object Oriented Programming through Java, HTML Basics

Course Objectives:

The objective of this course is to provide:

- To implement the static web pages using HTML and do client side validation using JavaScript.

- To design and work with databases using Java

- To develop an end to end application using java full stack.

- To introduce Node JS implementation for server side programming.

- To experiment with single page application development using React.

List of Experiments

1. Build a responsive web application for shopping cart with registration, login, catalog and cart pages using CSS3 features, flex and grid.

2. Make the above web application responsive web application using Bootstrap framework.

3. Use JavaScript for doing client – side validation of the pages implemented in experiment 1 andexperiment 2.

4. Explore the features of ES6 like arrow functions, callbacks, promises, async/await. Implement an application for reading the weather information from openweathermap.org and display the information in the form of a graph on the web page.

5. Develop a java stand alone application that connects with the database (Oracle / mySql) and perform the CRUD operation on the database tables.

6. Create an xml for the bookstore. Validate the same using both DTD and XSD.

7. Design a controller with servlet that provides the interaction with application developed inexperiment 1 and the database created in experiment 5.

8. Maintaining the transactional history of any user is very important. Explore the various sessiontracking mechanism (Cookies, HTTP Session)

9. Create a custom server using http module and explore the other modules of Node JS like OS,path, event.

10. Develop an express web application that can interact with REST API toperform CRUDoperations on student data. (Use Postman)

11. For the above application create authorized end points using JWT (JSON Web Token).

12. Create a react application for the student management system having registration, login, contact, about pages and implement routing to navigate through these pages.

13. Create a service in react that fetches the weather information from openweathermap.org and the display the current and historical weather information using graphical representation usingchart.js

14. Create a TODO application in react with necessary components and deploy it into GitHub.

Text Books:

1. Jon Duckett, Beginning HTML, XHTML, CSS, and JavaScript, Wrox Publications, 2010

Reference Books:

1. Bryan Basham, Kathy Sierra and Bert Bates, Head First Servlets and JSP, O'Reilly Media, 2ndEdition, 2008.

2. Vasan Subramanian, Pro MERN Stack, Full Stack Web App Development with Mongo, Express, React, and Node, 2nd Edition, A Press.

Course Outcomes:

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

1. Build a custom website with HTML, CSS, and Bootstrap and little JavaScript.

2. Demonstrate Advanced features of JavaScript and learn about JDBC

3. Develop Server – side implementation using Java technologies

4. Develop the server – side implementation using Node JS.

5. Design a Single Page Application using React.

CO-PO-PSO Mapping:

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	H	M	M	M	M								H	M
CO-2	M	M	H	L	L								M	H
CO-3	M	M	M	H	H								M	H
CO-4	M	M	M	H	H								M	H
CO-5	H	M	M	M	M								H	H

H-HIGH **M**-MODERATE **L**-LOW