Ganpat University
॥ विद्यया समाजोत्कर्षः ॥

Faculty of Computer Applications

NAAC A Grade Accredited University

FACULTY OF COMPUTER APPLICATIONS

Programme	BCA Honors	**Branch**	Bachelor of Computer Applications
Semester	V	**Version**	1.0.0.0
Effective from Academic Year	2026-2027	**Effective for the batch Admitted in**	June 2024
Subject Code	U35A3RJD	**Subject Name**	REACT JS DEVELOPMENT

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	2		2	-	2	Theory	50	50	100
Hours	2		4	-	6	Practical	-	-	-

Objective:

To enable students to understand the fundamentals of React JS and develop interactive single-page web applications.

Pre-requisites:

Students should have knowledge regarding HTML, CSS, JavaScript (ES6+ features), and basic understanding of web development concepts.

Course Outcomes :

Name of CO	**Description**
CO1	Understand the core concepts of React JS, including components, JSX, and virtual DOM.
CO2	Implement state and props management in React components for dynamic UIs.
CO3	Apply event handling, conditional rendering, and list rendering techniques in React applications.
CO4	Utilize React Router for navigation and manage forms effectively in React.
CO5	Develop a simple full-stack web application using React JS for the frontend.

Mapping of CO and PO

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

Content:

Unit		Hrs
1	**Introduction to React JS** What is Node? What is React? Why React? , Single Page Applications (SPAs) vs. Multi-Page Applications (MPAs), Setting up a React Development Environment (Node.js, npm/yarn, Create React App), React Fundamentals: Components, JSX, Virtual DOM.	6
2	**Components, State, and Props** Functional Components vs. Class Components, Understanding State and Props, Managing Component State (useState hook), Passing Data with Props, Destructuring Props, Component Lifecycle (brief overview for functional components with useEffect).	6
3	**Event Handling, Conditional & List Rendering** Event Handling in React (Synthetic Events,Event Handling Syntax, Common Events Type), Passing Arguments to Event Handlers (Arrow Function, Bind Method, Passing Arguments to directly event handler), Conditional Rendering (if/else, ternary operator, logical &&), List Rendering (map method), Keys in Lists.	6
4	**React Router and Forms** Introduction to React Router, React Router Core Components (BrowserRouter, Switch, Route, Link, Nested Routes), Router Types (HashRouter, MemoryRouter, StaticRouter), Form Handling in React, Controlled & Uncontrolled Components, Form submission.	6
5	**Building a Simple Web Application** Project Structure and Best Practices, CRUD Operations & API (e.g., using fetch or Axios - conceptual), Introduction to API integration (dummy API example).	6

Practical Content:

List of programs/mini-projects specified by the subject teacher based on above mentioned topics. Emphasis on hands-on coding exercises for each concept.

Text Books:

1	"React JS Complete Guide" by Max Schwarzmüller (Udemy Course - often has an accompanying eBook/resources).

2	"Learning React: A Hands-On Guide to Building Web Applications" by Kirupa Chinnathambi, O'Reilly Media.
Reference Books:	
1	"The Road to React" by Robin Wieruch.Publishing
2	"React in Action" by Mark Tielens Thomas, Manning Publications.
3	"Fullstack React: The Complete Guide to ReactJS and Friends" by Haneef, N. et al., newline.co.
Web References / MOOC / Certification Course	
1	https://react.dev
2	https://www.udemy.com/course/react-the-complete-guide-incl-redux/
3	https://www.coursera.org/learn/react-basics
4	https://www.freecodecamp.org/news/tag/react/
Question Paper Scheme:	

End Semester Examination Duration: (2 Hours Theory Examination)
Note for Examiner: -
Q-1 Any Five out of Seven (25 Marks)
Q-2 Any Two out of Three (06 Marks)
Q-3 Mandatory question (05 Marks)
Q-4 Any Two out of Three (08 Marks)
Q-5 Any Two out of Three (06 Marks)
The question paper must comprehensively address all Course Outcomes (COs), align Taxonomy levels, and ensure complete syllabus coverage.