GANPAT UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

Programme	Bachelor of Technology	Branch/Spec.	Computer Engineering / Information Technology
Semester	V	Version	2.0.0.0
Effective from Academic Year	2020-21	Effective for the batch Admitted in	July 2018
Subject code	2CEIT5PE4	Subject Name	Software Packages

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture (DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	0	1	-	4	Theory	40	60	100
Hours	3	0	2	-	5	Practical	30	20	50

Pre-requisites:

Basic concepts of HTML, CSS and JavaScript and OOPS

Objectives of the course:

1. Understand how to write asynchronous code using different techniques.
2. Learn how to install, update and uninstall node packages using npm.
3. Learn how to work with events and stream for better non-blocking i/o.
4. Understanding of database connectivity with node.js application.
5. Conceptualize the lifecycle of a component in react.
6. Manage state and events in react applications.

Theory syllabus

Unit	Content	Hrs
1	**Introduction to Node.js:** Advantages of Node.js, Traditional Web Server Model, Node.js Process Model	04
2	**Node.js Modules:** Functions, Buffer, Module, Module Types, Core Modules, Local Modules	06
3	**Node Package Manager:** What is NPM, Installing Packages Locally, Adding Dependency in Package json, Installing Packages Globally, Updating Packages	07
4	**Events:** EventEmitter Class, Returning Event Emitter, Inhering Events	05
5	**Database Connectivity:** Connect Database with Node.js Application, Configuring Node.js Application, Working with Select Command, Updating Records, Deleting Records	07
6	**Introduction to React and Component:** React Syntax, React Component Properties, Setting Properties, Component Lifecycle, Updating Components	07
7	**React State:** Creating State, Events In React, hanging State, Changing State From Another Component	04
8	**React Forms:** Creating a Form With State, Controlled Components and OnChange, Uncontrolled Components & Refs, Form Submit Action to Context	05

Practical content

Experiments/Practicals/Simulations would be carried out based on syllabus

Text Books	
1	Practical Node.js: Building Real-World Scalable Web Apps by AzatMardan
2	The Road to learn React by Robin Wieruch
Reference Books	
1	Learning React: Functional Web Development with React and Redux by Alex Banks, Eve Porcello
2	Smashing Node.js: JavaScript Everywhere by Guillermo Rauch.
ICT/MOOCs Reference	
1	https://reactjs.org/docs/getting-started.html
2	https://www.edureka.co/nodejs-certification-training
3	https://www.guru99.com/node-js-tutorial.html
4	https://nodejs.org/en/
5	https://reactjs.org/

Course Outcomes:

After successful completion of this course, student will be able to

1. Understand the JavaScript and technical concepts behind Node.js.
2. Build simple command line programs or complex enterprise level web applications with equal ease.
3. Create and deploy dynamic front end applications using React.
4. Build powerful, fast, user-friendly and reactive web applications.