Task 1: Roles and Responsibilities of Web Developer

Core Responsibilities:

Writing efficient, testable code using best practices

Creating website layouts/user interfaces with HTML/CSS

Integrating data from back-end services and databases

Troubleshooting and debugging applications

Optimizing applications for speed and scalability

Collaborating with designers and other developers

Front-End Specific:

Implementing responsive designs

Ensuring cross-browser compatibility

Creating interactive features with JavaScript

Integrating with RESTful APIs

Back-End Specific:

Server-side application logic

Database design and management

Developing and maintaining APIs

Security implementation and data protection

Full-Stack Responsibilities:

End-to-end application development

System architecture planning

Performance optimization

Technical documentation

Soft Skills:

Problem-solving and analytical thinking

Communication with team members

Time management and meeting deadlines

Continuous learning and adapting to new technologies

Task 2: Web Technology Research

Front-End Technologies:

HTML5, CSS3, JavaScript (ES6+)

Frameworks: React, Angular, Vue.js, Svelte

Build Tools: Webpack, Vite, Parcel

CSS Preprocessors: Sass, Less

Testing: Jest, Cypress

Back-End Technologies:

Languages: JavaScript (Node.js), Python, Java, PHP, C#

Frameworks: Express.js, Django, Spring, Laravel, ASP.NET

Databases:

SQL: MySQL, PostgreSQL, SQLite

NoSQL: MongoDB, Redis, Cassandra

APIs: REST, GraphQL, gRPC

DevOps & Deployment:

Version Control: Git, GitHub, GitLab

Containerization: Docker, Kubernetes

Cloud Platforms: AWS, Azure, Google Cloud

CI/CD: Jenkins, GitHub Actions, GitLab CI

Current Trends:

Progressive Web Apps (PWAs)

Jamstack Architecture

Serverless Computing

Microservices

AI and Machine Learning Integration

WebAssembly (Wasm)

Motion UI

Voice Search Optimization

Job Opportunities:

Front-End Developer (₹3-8 LPA)

Back-End Developer (₹4-10 LPA)

Full-Stack Developer (₹5-12 LPA)

DevOps Engineer (₹6-15 LPA)

Web Security Specialist (₹7-15 LPA)

UI/UX Developer (₹3-8 LPA)

Mobile Web Developer (₹3-8 LPA)

****Task 3: Build a website demo on React****

### **Step 1: Set up React project**