1. Foundational Knowledge

Topic	Details
HTML	Basics (tags, attributes, structure), forms, semantic elements.
CSS	Selectors, box model, flexbox, grid, responsive design, animations.
JavaScript Basics	Variables, data types, operators, loops, functions, DOM manipulation.
Version Control	Git basics (init, add, commit, push, pull), branching, GitHub/ Bitbucket.
Basic Tools	Text editors (VS Code), terminal commands, browser dev tools.
HTTP/HTTPS	Request-response model, status codes, headers, methods (GET, POST, etc.).
Programming Concepts	Data structures, algorithms, problem-solving basics.

2. Frontend Development

Topic	Details
Advanced JavaScript	ES6+ features (arrow functions, destructuring, promises, async/await).
Frameworks/Libraries	React (components, hooks, state, props), Vue.js or Angular basics.
State Management	Redux, Context API, or Vuex basics.
Frontend Tools	NPM/Yarn, Webpack, Babel, Vite.
CSS Frameworks	TailwindCSS, Bootstrap, Material UI.
API Consumption	Fetch API, Axios, working with REST and GraphQL APIs.
Testing	Unit tests with Jest, React Testing Library, or Cypress.

3. Backend Development

Topic	Details
Programming Language	JavaScript (Node.js), Python (Django/Flask), Ruby (Rails), PHP, or Java (Spring).
Server Framework	Express.js (Node.js), Koa.js, or Django REST Framework.
Database Basics	SQL (MySQL, PostgreSQL), NoSQL (MongoDB), database design, indexing.
Authentication	JWT, OAuth, session-based authentication.
APIs	Creating RESTful APIs, GraphQL basics.
Real-time Features	WebSockets, Socket.IO.
Backend Testing	Mocha, Chai, Supertest, or Postman for API testing.

4. Deployment & DevOps

Topic	Details
Hosting Platforms	Vercel, Netlify (frontend), Heroku, AWS, DigitalOcean, or Azure (backend).
CI/CD	GitHub Actions, CircleCI, Jenkins basics.
Containerization	Docker basics (Dockerfile, images, containers, Compose).
Orchestration	Kubernetes basics (pods, deployments, services).
Version Control	Advanced Git workflows, resolving conflicts, rebasing.
Monitoring & Logs	Tools like Prometheus, Grafana, ELK stack, or Sentry.
Server Management	Nginx/Apache, basic Linux commands.

5. Advanced Full Stack Concepts

Topic	Details
Advanced Backend	Microservices, GraphQL advanced queries, caching (Redis, Memcached).
Frontend Performance	Code splitting, lazy loading, SSR, CSR, hydration (Next.js, Nuxt.js).
Database Optimization	Database normalization, transactions, and replication.
Security	Secure coding practices, HTTPS, CORS, CSRF, XSS, SQL injection prevention.
Scalability	Load balancing, horizontal/vertical scaling, CDN usage.
Advanced Tools	Webpack advanced config, custom Babel presets.
Mobile Apps	Basics of React Native, Flutter, or PWA development.