**Prompt :** Summarize the text , highlighting the 20% of information that contributes to 80% of the key insights.

**🔑 High-Impact Insights from “API Testing for SDET, QA and Manual Tester”**

**🧠 Core Concepts That Drive API Testing Success**

* **API testing validates backend logic, integration, and security**—often before the UI is ready, enabling early bug detection and cost savings.
* **Key components to test**:
  + Endpoints
  + HTTP methods (GET, POST, PUT, DELETE)
  + Request payloads and parameters
  + Response status codes and headers
  + Assertions for status, body, and performance

**🧪 Must-Know Testing Types**

* **Functional Testing**: Validate correct behavior for valid and invalid inputs.
* **Security Testing**: Test authentication, authorization, input sanitization, and token handling.
* **Performance Testing**: Measure response time, load capacity, and caching efficiency.
* **Contract Testing**: Ensure APIs conform to agreed request/response structures (OpenAPI, Swagger).

**🧰 Tools That Matter Most**

| **Tool** | **Why It’s Valuable** |
| --- | --- |
| **Postman** | Easy scripting, environment setup, automation via Newman |
| **SoapUI** | Enterprise-grade testing for SOAP/REST with Groovy scripting |
| **REST Assured** | Java-based automation with fluent syntax and CI/CD integration |

**📋 Test Case Design Essentials**

* Use a **modular template**: Test ID, endpoint, scenario, data, steps, expected/actual result, status.
* Cover **positive, negative, edge cases**, and **role-based access**.
* Automate repetitive tests and validate against schemas.

**🚀 Advanced Practices That Scale**

* **Parameterization**: Use CSV/JSON to drive varied test inputs.
* **Mocking/Stubbing**: Simulate APIs when dependencies are unavailable.
* **CI/CD Integration**: Run API tests automatically on code changes using tools like Jenkins and Newman.

**🧭 Interview-Ready Knowledge**

* Be fluent in:
  + HTTP methods and status codes
  + API security (OAuth, JWT)
  + Error handling (400, 401, 403, 500)
  + Data-driven and contract testing
  + CI/CD workflows for API automation