Module-5

1. What is Automation testing?

* **Automation Testing** is a software testing technique that uses specialized tools or scripts to automatically execute test cases, compare actual outcomes with expected results, and report defects.
* It is primarily used to increase testing efficiency, speed, and accuracy, especially for **repetitive** and **regression** testing tasks.

**Why Use Automation Testing?**

1. **Saves Time and Effort** – Automates repetitive test cases.
2. **Improves Accuracy** – Reduces human error.
3. **Faster Feedback** – Speeds up the development and deployment cycle.
4. **Supports Continuous Testing** – Essential in **DevOps** and **CI/CD pipelines**.
5. **Reusable Test Scripts** – Once created, test scripts can be reused for future testing cycles.

**Common Tools for Automation Testing**

* **Selenium** – Web application testing.
* **JUnit/TestNG** – Unit testing in Java.
* **Appium** – Mobile app testing.
* **Postman/Newman** – API testing.
* **Cypress** – Modern web testing.
* **Playwright** – End-to-end browser testing.

**Types of Tests That Can Be Automated**

* Regression Tests
* Smoke Tests
* Sanity Tests
* Load & Performance Tests
* **UI Tests** (Web and Mobile)

**When Not to Use Automation**

* When the test cases are **newly designed** or **change frequently**
* For **short-term projects**
* For **usability** or **exploratory testing** (which require human judgment)