**Why we need Software Testing Tool.**

We need software testing tools because there are a lot of different types of software and it can be very difficult to know which one is appropriate for a particular task. It can also be difficult to determine whether a particular software is safe to use.

**It is Important To Perform System Testing Because:-**

The purpose of system testing is to ensure that an application or system is working as it should. Testing can help identify issues with the application or system, and may also uncover potential vulnerabilities.

Testing can also help ensure that an application or system is easy to use and that it meets the needs of your customers. If an application or system is not easy to use or meet the needs of your customers, it could be difficult to sell or use it in your business or industry.

Testing can also help ensure that an application or system is secure. If an application or system is not secure, it could be vulnerable to attack and could be stolen or leaked.

## Testing Is Necessary Because:-

Automation testing is necessary because it can help speed up the process of testing and identify potential problems before they cause functionality issues. Automation testing can also help identify potential defects in software that may not be detectable by human testers.

**Differentiate between Static and Dynamic testing tools.**

***Static Testing*** is a form of [***software testing***](https://toolsqa.com/software-testing/software-testing/) where the actual program or application is not used. This testing method requires programmers to manually read their own code to find any [***errors***](https://toolsqa.com/software-testing/difference-between-error-mistake-fault-bug-failure-defect/). ***Static testing*** is a stage of [***White Box Testing***](https://toolsqa.com/software-testing/white-box-testing/) and is also called ***Dry Run Testing*.**

In Static Testing, code is not executed. It can be done manually or by a set of tools. It does not need a computer as the testing of a program is done without executing the program. For example:  ***reviewing, walk through, inspection***, etc. This type of testing checks the code, requirement documents, and design documents and puts review comments on the work document.

***Dynamic Testing*** is a kind of software testing technique by using which the dynamic behavior of the code is analyzed. Dynamic testing is done when the code is in operation mode. And is performed in a run time environment. It is a method of assessing the feasibility of a software program by giving input and examining the output. Dynamic testing is the Validation part of the Verification and Validation process.

Dynamic testing refers to the examination of the physical response from the system to variables that are not constant and change with time. In dynamic testing, the software must actually be compiled and run. It is a method of assessing the feasibility of a software program by giving input and examining the output and checking if the output is as expected. This is done by executing specific test cases that can be done [***test manually***](https://toolsqa.com/software-testing/manual-testing/) or with the use of an automated process. [***Unit tests***](https://toolsqa.com/software-testing/unit-testing/)**,**[***integration tests***](https://toolsqa.com/software-testing/integration-testing/)**,**[***system tests***](https://toolsqa.com/software-testing/istqb/system-testing/), and [***acceptance tests***](https://toolsqa.com/software-testing/user-acceptance-testing-uat/) utilize dynamic testing.

**Explain the Characteristics of Modern Tools.**

**Following are characteristics of modern testing tools**

1. It should use one or more testing strategy for performing testing on host as well as on target platform.

2. It should support GUI based test preparation.

3. It should provide complete code coverage and create test documentation in various formats (HTML/DOC/RTF...).

4. These tools should able to adopt the underlying hardware.

5. It should be easy to use. 6. Finally it should provide a clear report on test case, steps, test case status (PASS/FAIL).

Q2. Explain the following related to Selected software testing Tool.

(i) Group No. 12

(ii) Name of the Software Testing Tool: **Selenium**

(iii) Justification for Selected Tool: **Cost-Effectiveness, Ease of Access, Cross-Browser Compatibility and Multilingual Support, Frameworks and Integration, Record and Playback, Test-Driven Development (TDD)**

(iv) Tool Status: Working/Not working: **YES**

(v) Software/hardware Specification Required for Tool:

* Microsoft Windows 7 with Service Pack 1
* Microsoft Internet Explorer 9.0 or later.
* Intel Core 2 Duo  2 GHz or higher.
* 2 GB of RAM.
* 1.5 GB of free disk space for installation, plus extra space for temporary files during test runs (see below).
* 1024 × 768 or higher display resolution.
* Mouse or other pointing device.

(v) Software Testing Techniques Perform by Tool:

* Regression Testing
* Sanity Testing
* Smoke Testing
* UI Testing
* Database Testing
* Cross-Browser Testing

(vi) References:

[Tester Tips – A Blog for Testers](https://testertips.com/)

[Selenium](https://www.selenium.dev/)

(vii) Name signature of Group Members:

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