**Module 4**

**Automation Core Testing (Load Runner Up and Selenium IDE)**

**Q.1 Which components have you used in Load Runner?**

**Ans. LoadRunner** is a software testing tool. It is used to test applications, measuring system behaviour and performance under load.

components of LoadRunner are:

* **Load Generator** generates the load against the application by following scripts
* **VuGen** (Virtual User Generator) for generating and editing scripts
* **Controller** controls, launches and sequences instances of Load Generator - specifying which script to use, for how long etc. During runs the Controller receives real-time monitoring data and displays status.
* **Analysis** assembles logs from various load generators and formats reports for visualization of run result data and monitoring data.

**Q.2 How can you set the number of Vusers in Load Runner?**

**Ans.** You may adjust the number of Vusers in the controller section area while creating scenarios.

In the controller section there are many sophisticated options such as Vuser ramp-up and ramp-down of Vusers are also available in the Controller section.

**Q.3 What is Correlation?**

**Ans.** Correlation is used to obtain data which is unique for each run of your test script

e.g.: session ids

While recording, these dynamic values are hard-coded in your script causing the script to fail during playback. Correlation is a technique where dynamic values are not hard-coded in your script but are extracted at run-time to avoid failure.

**Q.4 What is the process for developing a Vuser Script?**

**Ans.** There are four steps for developing a vuser script.  
1- Record the Vuser Script.  
2- Playback / Enhance the recorded vuser script.  
3- Define the various run-time settings & check  
4- Incorporate the script in a LoadRunner scenario

**Q.5 How Load Runner interacts with the application?**

**Ans.** Protocol is used in Load Runner to interact with the application.

**Q.6 How many VUsers are required for load testing?**

**Ans.** The number of VUsers required depends on your system under test, network configurations, hardware settings, memory, operating system, software applications objective of a performance test.

There cannot be any generic value for Vuser.

**Q.7 What is the relationship between Response Time and Throughput?**

**Ans.**  The Throughput shows the amount of data in bytes that the Vusers received from the server in a second. When It is compared with transaction response time, throughput and response time get decreased.

The peak throughput and highest response time would occur approximately at the same time.

**Q.10 What is Automation Testing?**

**Ans.** Automation testing is a software testing technique that automates the process of validating the functionality of software and ensures it meets requirements before being released into production.

Automation testing is a software testing technique that performs using special automated testing software tools to execute a test case suite.

**Q.11 Which Are the Browsers Supported by Selenium Ide?**

**Ans.** Selenium IDE (Integrated Development Environment) is primarily a record/run tool that a test case developer uses to develop Selenium Test cases.

Browsers supported by selenium are: Google chrome, Internet explorer 7 onwards, Safari, Opera, Firefox.

**Q.12 What are the benefits of Automation Testing?**

**Ans.**

Speed–Automation Scripts run very fast when compared to human users.

Reliable–Tests perform precisely the same operations each time they are run, there by eliminating human error.

Repeatable–We can test how the application reacts after repeated execution of the same operation

Comprehensive–We can build a suite of tests that covers every feature in our application

Reusable–We can reuse tests on different versions of an application, even if the user interface changes.

Automate your testing procedure when you have lot of regression work.

Automate your load testing work for creating virtual users to check load capacity of your application.

Automation testing requires fewer people to perform a tedious manual test.

**Q.13 What are the advantages of Selenium?**

**Ans.**

* Selenium is an open-source automation testing tool and it is free of cost to use.
* Selenium provides high tester flexibility to write advanced and complex test cases.
* Supports test scripts written in any user-preferred languages such as C#, Java, Perl, PHP, Python, and Ruby
* Supports test case execution on multiple operating systems such as Windows, Linux, Android, Mac, and iOS.
* Supports testing on different web browsers such as Chrome, Firefox, Internet Explorer (IE), Opera, and Safari.
* Test cases can be executed while the browser window is minimized.
* Selenium supports parallel test execution.
* Selenium can be integrated with TestNG and JUnit to generate test reports and manage test cases.
* Selenium can be integrated with Jenkins, Docker, and Maven to attain continuous testing.

**Q.14 Why testers should opt for Selenium and not QTP?**

**Ans.**

1. Selenium supports a wide range of programming languages. Whereas QTP only supports the VBScript programming language. Test scripts cannot be written in any other language
2. Selenium is OS independent and allows test scripts to run across all browsers. Whereas QTP test scripts run only on the Windows environment. They cannot be run across all browsers.
3. QTP does not support different IDEs. It works only on QTP developed IDEs.
4. Selenium is completely free of cost and QTP is not free
5. Selenium can execute tests while the browser is minimized and QTP Needs to have the application under test to be visible on the desktop.
6. Selenium Can execute tests in parallel whereas QTP Can only execute in parallel but using Quality Center which is again a paid product
7. Selenium Supports mobile devices and QTP Supports mobile device using 3rd party software which cannot be free