**Section 1**

1. **What is RTM and its use in testing life cycle?**

The RTM(Requirements Trace Matrix ) is used as a test planning tool to help determine how many tests are required, what types of tests are required, whether tests can be automated or manual, and if any existing tests can be re-used. Using the RTM in this way helps ensure that the resulting tests are most effective.  
  
The RTM can serve many purposes over the course of a development project. Initially, it can be used as a planning tool (as illustrated above). Once the tests are developed and Validation Testing has begun, the RTM can be used to help determine the extent of regression test required based on the relationship be requirements, design, code, and tests as illustrated below.  
  
When it becomes necessary to perform regression testing, the accurate information included in the RTM will be invaluable in helping to select a reasonable set of tests to run.

The RTM can also be used to help analyse the existing test suite.

1. **When should we run a regression test on an application?**

Regression Testing is nothing but a full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine.

This testing is done to make sure that new code changes should not have side effects on the existing functionalities. It ensures that the old code still works once the new code changes are done.

Need of Regression Testing

Regression Testing is required when there is a :

* Change in requirements and code is modified according to the requirement
* New feature is added to the software
* Defect fixing
* Performance issue fix

1. **What is Database Testing and when should we consider testing database?**

Database testing is making sure that all the data will be securely transferred and stored in the Database.

Why we need Database Testing?

To Verify Data Mapping – Most applications consist of 3 layers, namely UI, business, and Database. User Interactions are captured through the UI, processed by the business layer and ultimately saved/ mapped in the database.

1. **What do you mean by Absolute and Relative xPaths? Which one should we consider to create our automation test scripts?**

XPath in itself is the best locator technique among all possible ones.

What’s better between Absolute and Relative XPaths?

I would say, Relative XPath. Before I explain why, let’s have a small recap. There are 2 types:

* Absolute XPath/ Dynamic Xpath
* Relative XPath

If you use Absolute XPath you will have a problem later because if there are any changes made later in the path of the element then that XPath gets failed at later point of time of execution.

During such cases, you can use Relative XPath. For Relative XPath, the path starts from the middle of the HTML DOM structure. It starts with the double forward slash (//), which means it can search the element anywhere at the webpage.

1. **What do you mean by Iterative and Incremental development approach?**

Iterative and incremental software development is a method of software development that is modelled around a gradual increase in feature additions and a cyclical release and upgrade pattern.

Incremental – adding new functionality in small chunks

Iterative – performing repeatedly, i.e. adding new functionality in a repetitive or cyclic manner

1. **Write Positive and at least 3 Negative test scenarios for below:**

a. Description - User should be able to Log into the app using Facebook Actor - User Trigger - User launches the app and tries to log in

Positive:

* 1. User should be able to see Login Screen when App launches
  2. User should be able to navigate to home page after successful login
  3. User should be able to enter username, password and able to click on Login

Negative:

1. User Enter wrong username and correct password and click on Login, wrong user id message pop up
2. User enter correct Username and wrong password and click on Login, wrong password message pop up
3. User enter wrong username and password and click on Login, Wrong Username and password message pop up.

b. Description - User should be able to do a successful transaction using a Payment Gateway (Example -PayPal) Actor - User Trigger - User is on store screen and selects a product to pay

Positive:

* + 1. User is able to select the product and successfully navigate to payment screen
    2. When User does the Payment then payment successful message should display
    3. When User selects the specific product then user should display exact amount on payment Gateway.

Negative:

1. When User Select product and navigate to Payment screen then there is mismatch in price of the product
2. When user does the payment then user won’t be able to see the successful message
3. When User selects 2 quantity of product and navigates to payment then User sees the only one quantity of product.

**Section 2**

**- Automate above scenarios to test on an Android and iOS device with OS 6.1.1 and 11.0 respectively using Appium.**

**Pre-requisite for Mobile Automation :**

Step 1: [Install the Java Development Kit (JDK)](http://toolsqa.com/mobile-automation/appium/install-the-java-development-kit-jdk/)

Step 2: [Set Up Java Environment Variable Path](http://toolsqa.com/mobile-automation/appium/set-up-java-environment-variable-path/)

Step 3: [Install Android SDK / ADB on Windows](http://toolsqa.com/mobile-automation/appium/install-android-sdk-adb-on-windows/)

Step 4: [Install Android SDK Packages](http://toolsqa.com/mobile-automation/appium/install-android-sdk-packages/)

Step 5: [Set up Android Environment Variable](http://toolsqa.com/mobile-automation/appium/set-up-android-environment-path/)

Step 6: [Download and Install NodeJs](http://toolsqa.com/mobile-automation/appium/download-and-install-nodejs/)

Step 7: [Install Microsoft .net Framework](http://toolsqa.com/mobile-automation/appium/install-microsoft-dot-net-framework/)

Step 8: [Download And Install Appium Desktop Client](http://toolsqa.com/mobile-automation/appium/download-and-install-appium-desktop-client/)

Step 9: [Enabling Developer Mode Options on Android Phone or Tablet](http://toolsqa.com/mobile-automation/appium/enabling-developer-mode-options-on-android-phone-or-tablet/)

Step 10: [Install PdaNet to Connect with Android Device](http://toolsqa.com/mobile-automation/appium/install-pdanet-to-connect-with-android-device/)

Step 11: [Install Eclipse IDE And Set up a Project](http://toolsqa.com/mobile-automation/appium/install-eclipse-ide-and-set-up-a-project/)

Step 12: [Set Up Appium Project in Eclipse](http://toolsqa.com/mobile-automation/appium/set-up-appium-project-in-eclipse/)