Assignment 1:

Describe how the system under test can be tested at the different test levels in the V-model and how the test activities are related to the ISTQB's seven test principles. Be as concrete as possible.

User requirements - Acceptance test

System requirements – System test

Global design – Integration test

Detailed design - Component test

Implementation

The user requirements of the system can be tested by using Acceptance test. This relates to the ISTQB’s test principle of early testing.

The system requirements can be tested using System test. ISTQB’s test principle

Global design of the system can be tested using Integration test. ISTQB’s test principle

Detailed design of the system can be tested by performing a Component test. Component testing involves verifying the functioning of software items, like objects, classes, methods, that are possible to test separately. The objects can be tested by writing code to test the object code, or by using stubs, drivers, or simulators. A Stub is a code that replaces a called component in order to simulate its purpose, and a Driver is a code that replaces another software component to be able to call the component under test.   
In this case a component test could be done by verifying the functioning of each test condition in a prioritized order.

This relates to the ISTQB’s test principle

Seven test principles:

1. Testing shows the presence of defects -
2. Exhaustive testing is impossible - optimal testing based on the risk assessment. Prioritize what can make it fail.
3. Early testing - defects are captured in early stages.
4. Defect clustering - 80% of problems found in 20% of the modules.
5. Pesticide paradox - test cases must be regularly reviewed and revised.
6. Testing is context dependent - different approach and techniques to different applications.
7. Absence of errors fallacy - check that software addresses the business needs.

Assignment 2:

Analyze the test basis and identify as many test conditions as possible, at least 10. The test conditions should be placed in a priority list according to their severity, in descending order.

Which test strategy and/or test approach did you use to identify the test conditions? Explain your choice of severity of each test condition. (It is possible to use more than one strategy or approach).

Test Conditions (?):

* Buy rechargeable travel card -> recharge card with a self-selected amount of money. Check the balance of the card.
* Buy 7-day ticket -> travel for 7 days
* Buy 30-day ticket -> travel for 30 days
* Trip registered -> balance reduced
* Trip registered within the last hour -> can’t register a new trip
* Valid ticket for one hour after registration -> possible to make multiple trips
* Expiration time registered -> get information about expiration time
* Balance registered -> get information about balance
* Payment information registered -> get information about registered payment
* Ticket price-information available -> get information about ticket prices
* Ticket conditions available -> get information about ticket conditions