

## Agile Internship Kickoff (Day 1)

- Introductions
- Transformations in Tech, process and People
- Products that use AI & how it works
- Internship content & how it is aligned with market

## Sprint 0 (week 1)

- What is Software
- How a software gets developed
- What is software testing
- Why we need to test
- Quality gaps – Producer and customer gap
- Software Testing Life cycle
- Software testing principles
- Exercises

## Sprint 0 (Week 2)

- What are Software testing techniques – a detailed discussion
- Black box testing techniques
- White box testing techniques
- Decision table
- What is Functional testing
  - o Unit testing
  - o System testing
  - o Integration testing
  - o Regression testing
  - o Smoke and Sanity testing
- What is Non-functional testing
- Various types of testing and why
- Exercises

## Sprint 1 (Week 3)

- Waterfall Methodology – Pros and cons
- V Methodology – Pros and Cons
- Introduction to Agile
- What is Agile methodology
- Introduction to Scrum Framework
- Whole team approach
- Scrum mind-set
- Scrum ceremonies
- Tools used in scrum world - JIRA
- What are software requirements specification
- Why we need requirements
- No requirements – failure
- What is a user story
- What are acceptance criteria
- Role of a tester with requirements/user story
- Different between requirement and user story
- Exercises



### **Sprint 1 (Week 4)**

- What is a test plan
- Significance of a test plan
- Test plan guidelines -> a detailed discussion
- How to write a good test plan
- Need for test plan review
- Types of reviews
- Exercises
- What is a test case
- How to design/write test cases
- Best practices followed
- Creating test cases using requirements/user stories
- Creating test cases in Jira (Zephyr)
- What is a test set
- What is a test suite
- Test cases execution and reporting
- Practising test cases creation
- Exercises

### **Sprint 2 (Week 5 & Week 6)**

- Database testing
- DB Concepts
- Creating tables
- DML – Select, Insert, Update, Delete statements
- DDL – Create, alter, drop
- Hands-on all the above
- Exercises

### **Sprint 3 (Week 7)**

- Database testing
- mySQL
- Exercises

### **Sprint 3 (Week 8)**

- Introduction to Gen AI, how it works
- What is a defect in software
- Defect life cycle
- Writing a bug report
- Bug report best practices
- Reporting bugs – detailed discussion on various fields in a defect tracking tool - Roles as a software tester on dealing bugs
- Using Jira to raise a software defect

- Hands-on test bash – testing a live site and reporting bugs
- Exercises
- Exploratory Testing
- what are Heuristics and Oracles
- Benefits of Exploratory Testing
- Difference between scripted test case and exploratory Testing
- Session based Exploratory Testing
- Charters in exploratory testing
- Documenting exploratory testing sessions
- Exploratory testing using Gen AI (ChatGPT)

### **Sprint 4 (Week 9)**

- Risk based testing
- Prioritising tests based on risks
- Benefits of Risk Based Testing
- Risk based testing using Gen AI (ChatGPT)
- Exercises
- Introduction to mobile testing
- Difference between web and mobile testing
- Different tools available for mobile testing (manual & automation)
  - o mobile version in the browser
  - o Browserstack overview

### **Sprint 4 (Week 10)**

- Service Oriented Architecture
- What is HTTP
- What is a web service
- Why do we use web service
- Different protocols used in web services
- Exercises

### **Sprint 5 (Week 11)**

- What is a RESTful service
- REST architecture
- Difference between REST and SOAP
- JSON based REST architecture
- API Testing with REST
- API testing using Gen AI

### **Sprint 5 (Week 12)**

- CRUD operations
- HTTP Verbs - POST, GET, PUT and DELETE requests in REST
- Downloading POSTMAN
- Sending API requests
- Various assertions on the responses
- History and collections

## **Interview Preparations and Discussions**

## **Placement assessment and assistance**