

Software Testing and Quality Assurance

Unit 1

- ☐ Need for Software Testing
- ☐ Testing Terminology
- ☐ Seven Principles of Software Testing
- ☐ Fundamental Testing Process
- ☐ V Model
- ☐ Contents of a Test Policy Document
- ☐ Risk Management
- ☐ 11 Steps in Software Testing
- ☐ Risk Assessment Matrix
- ☐ Prepare thorough verification and validation strategy

Unit 2

- ☐ White Box Testing
- ☐ Basis Path Testing (Cyclomatic Complexity)
- ☐ Black Box Testing
- ☐ Mutation Testing
- ☐ Testing Web Apps
- ☐ Regression Testing
- ☐ Smoke Testing
- ☐ Usability Testing
- ☐ Accessibility Testing
- ☐ Equivalence Class Partitioning Test Cases

Unit 3

- ☐ Advantage of Software Test Automation
- ☐ Design and Architecture for Test Automation
- ☐ Generic Requirements for Test Tool / Framework
- ☐ Reasons to carefully Select Test Tool
- ☐ Criteria for Selecting Test Tools
- ☐ Steps for Tool Selection and Deployment
- ☐ Challenges in Automation
- ☐ Test Planning
- ☐ Test Estimation and Scheduling
- ☐ Test Management and Control

- ☐ Test Process Activities

Unit 4

- ☐ Software Measurement Principles
- ☐ Need for Software Measurement
- ☐ Classification of Software Measurement
- ☐ 5 Steps in a Metrics Program
- ☐ Types of Metrics
- ☐ Project Metrics
- ☐ Test Defect Metrics
- ☐ Progress Metrics
- ☐ Development and Defect Metrics
- ☐ Productivity Metrics
- ☐ Function Point Metrics Sum
- ☐ Sums in Senior Sem Paper

Unit 5

- ☐ Definition of Test Maturity Model
- ☐ Levels of Test Maturity Model
- ☐ Difference between CMM and TMM
- ☐ Advantages of TMM
- ☐ 2 kinds of Quality
- ☐ Quality Management System & Benefits
- ☐ Role of an SQA Group
- ☐ Software Review
- ☐ Defect Amplification and Removal
- ☐ Collecting Software Engineering Data
- ☐ Six Sigma