

**Noorul Islam College of Engineering**  
**M. Sc. Software Engineering (5 yrs)**  
**Seventh Semester**  
**Software Testing – XSE471**

**1. Expand PDCA?**

PDCA stands for plan Do Check Act the traditional way of software development process.

**2. What is QAI ?**

QAI stands for Quality Assurance Institute that proposes a QAI model that is to be followed by all testing process to achieve world class testing.

**3. Define Work Bench.**

Work bench is the diagrammatic representation of the activities and tasks that are carried out during a testing process by the tester. It is characterized by Input, Task, and output.

**4. What are the various defects?**

Missing, wrong, variance and Extra.

**5. State the Economics of testing.**

Too much of testing is a crime, Too little testing is a sin.

**6. What is job shop?**

Job shop creates products of same type but with different characteristics. This is what normally done in software development.

**7. Define functional testing**

Functional testing is called White box testing. This process of testing will test the functionality of the entities not the internal structure and logics.\

**8. Define structural testing.**

This is also black box testing. This tests the internal logic and structure of the entities.

**9. Expand SDLC.**

SDLC stands for system development life cycle.

**10. Define SQA.**

SQA stands for Software Quality Assurance. This is a measure of assuring the quality of the software products.

**11. Name any three criteria in the QAI model?**

Planning, use of tools, Proper training .

**12. Define regression testing.**

This is another form of stress testing. This testing is done when any modification is done in the software.

**13. Name any Two testing tools.**

- Acceptance criteria
- Boundary value analysis

**14. Name the staff associated with testing.**

Developer, Analyst, Tester, mathematician, It management CEO etc.

**15. What is V testing?**

V testing stands for verification and validation testing.

**16. What is testing strategy?**

Testing strategy includes the test factors and the testing phases. Here the strategy issues are decomposed into tactical issues.

**17. What is a test methodology?**

Test Methodology includes the various methods that are employed for testing. They include like compliance testing, acceptance testing etc.,

**18. What is test checklist?**

The check list contains the questionnaire for conducting the tests. Each and every problem associated with the instance will be considered in the checklist.

**19. What is Unit testing?**

Unit testing is done when a part of the code or function or single transaction is to be tested. This test can be nested in any kind of testing.

**20. What is the responsibility of the tools manager?**

They are responsible for the selection of tool, purchase, training etc., They help in the implementation of the appropriate tool for the desired process.

**21. What is the eleven step testing process?**

This is a verification Validation testing process. Where the first five steps are the verification tests and the rest is the validation testing process.

**22. Name any two steps in 11 step testing process.**

They include testing software installation. Report test results etc.,

**23. What are the parts of workbench?**

Input, Do procedures, Check procedures, Deliverables and guidelines.

**24. What are the 3 tasks done in requirements phase testing?**

- preparing risk matrix
- Test factor analysis based on the test policy
- Conducting requirements walkthroughs

**25. What are the 4 tasks done in developing test plan?**

- \* Form test team
- \* Understand project risks and concerns
- \* build test plan
- \* inspect test plan

**26. Name a cost estimation tool.**

ESTIMACS is an automated tool for cost estimation in testing and development.

**27. Name some project risks?**

Reliability, Authorization, access control problems.

**28. Name the participants in the test plan inspection.**

Reader, moderator, Recorder, author and inspector.

**29. Name 2 test factors in the requirements phase testing.**

They include compliance, Ease of use, portability etc.,

**30. Name the methods for cost estimation.**

They include constraint methods, percentage of hardware method , parametric modeling etc.

**31. Write about cost quantification.**

Cost quantification is done for the amount t of error encountered and the probability of testing to be done.

**32. How to verify the correctness of the estimates?**

- \* Recalculation of the estimates
- \* Compare the estimates remove redundancy.
- \* Prudent person test.

**33. What is life cycle testing?**

Life cycle testing is also called V testing which starts from the beginning of the development with verification and validation tests.

**34. Name the factors that influence the software system.**

The factors include size of the software complexity, quality etc.,

**35. Name the steps followed in worker test bench?**

These are the steps followed by the tester in their work bench.  
Overview, objective, concerns, workbench, input, do procedures, check procedures Output guidelines.

**36. Name some parametric models.**

They include Regression models, Heuristic models, Phenomenological models etc.,

**37. What are the two inputs for requirements phase testing?**

Project Requirements and requirements gathering process.

**38. What are the two inputs for developing test plan?**

Inputs include project plan and project plan assess of the estimates and status.

**39. Name the two categories of computer testing.**

Pre-Implementation and Post implementation testing.

**40. Ware the inclusions in a test plan?**

Test Team, milestones, Budgets, Schedule and Requirements.

**41. Name any two strategies for software cost estimation.**

Constraint method and Percentage of hardware method.

**42. Define the process of testing software design.**

Testing the internal and external design primarily thru verification techniques is done during the process.

**43. What are the inputs for acceptance testing?**

Tested software, Unresolved defects, Interim work products.

**44. What are the tasks done in acceptance testing?**

- Define acceptance criteria
- Develop acceptance plan
- Execute acceptance plan
- Develop acceptance decision.

**45. Write the inputs for the design phase testing.**

Design process and Design phase deliverables that are obtained.

**46. What are the four tasks done in design phase testing?**

- Score success factors
- Analyze design factors
- Conduct design review
- Inspect design

**47. What are the inputs for Execute test and report results ?**

- Operational test environment
- Test plan
- Test program library
- Record test results

**48. What are the three tasks done in execute test and report results?**

- Build test data and scripts
- Execute the tests
- Record the results.

**49. Name the different levels of testing?**

They are the following unit scripting, pseudo concurrency scripting, Integration scripting etc.,

**50. What are the inclusion in a test result?**

Statement of condition, criteria, Effect, Cause.

**51. What is the deliverable obtained by executing test and reporting results?**

- Project status reports
- Interim test reports
- Final test reports

**52. What is pseudo concurrency scripting?**

Pseudo concurrency scripting is the method to develop the script into test when more than one user is accessing a same file.

**53. What are the general conditions to look for while developing test data?**

There are two conditions like tests of normally occurring transactions and tests using invalid data.

**54. Name the persons responsible for conducting the design review.**

They are the project personal and the independent review team.

**55. Name some guidance to follow in design review process?**

- Select the review team
- Train the review team members
- Notify the project team.

**56. What is high positive correlation?**

The process is like take a situation use sample criteria to analyze the success from the whole sample.

**57. What is sampling?**

This process is like take a situation, use sample criteria to analyze the success from the whole sample.

**58. What are the design phase deliverables?**

- Input specification
- File specification
- Control specification
- System specification

**59. What are the Scoring tools?**

They are the project leaders assessment and Test team assessment.

**60. What are the results of the scoring factor process?**

They include estimate extent of testing, identify areas of test and identify composition of test teams.

**61. What are the inputs for Report test results?**

- Test plan
- Expected processing results
- Test results.

**62. Name the three tasks in report test results.**

- Report project status
- Report interim test results
- Report final test results.

**63. What are the inclusions of a test data?**

Test factors, functions, platform and units.

**64. What are the defects included in the report of the test results?**

- Defect uncovered
- Name if the defect
- Location of defect
- Type of the defect.

**65. Name the two levels of project status reporting.**

- Summary status reporting
- Project status reporting

**66. Define project status report?**

This provides details about the view of the project on its schedules, budgets resources etc.,

**67. Name some vital project information.**

They are report date, executive sponsor, name of the project manager and project officials name.

**68. Name the two inputs for testing software installation.**

They are the installation plan and procedure together with the software to be installed.

**69. Name some tasks in the test for software installation.**

Test installation of new software, test changed version, monitor production and document problems.

**70. Name some installation concern.**

Reliability, Authorization, integrity, audit trail etc.,

**71. Name the persons involved in monitoring production.**

They are three like application system control group, user personnel, and software maintenance personnel.

**72. Write any three inputs for testing software changes.**

Changed documentation, changed version of software, prior test results etc.,

**73. Name any three tasks in testing the changes in software.**

The tasks include developing and updating the test plan and test data, test control change process, conduct testing.

**74. What are the three important inclusions of a test plan?**

They are element to test, method of test and desired result.\

**75. Name the three methods to create test data?**

Update the existing test data, create new test data and use production data for testing.

**76. What are the changes that affect data?**

Changes in length, value, consistency, reliability etc.,

**77. What are the inclusions in a training material?**

They are narrative forms, user manual, illustration, explanations etc.,

**78. Name some tasks for evaluating test effectiveness.**

There are seven tasks like identify needed facts, collect evaluation data, approach for evaluation etc.

**79. What are the objectives of evaluating the test effectiveness?**

There are mainly two objectives like evaluate the performance of testers and update the quality of the test process.

**80. Name the input for test evaluation.**

They are test conducted, resources used in testing, testing tools and defects encountered.

**81. What are the input for testing a client server system?**

Client server system, Server technology, communication networks etc.,

**82. Name some tasks for testing client server system.**

They are assessment readiness, assess key component and the test system etc.,

**83. What are the concerns on testing a client server system?**

There are many which include the organizational readiness, client installation, security, client data etc.,

**84. Name the different levels of process maturity.**

Adhoc, Repeatable, consistent, measured and optimized.

**85. What are the inputs for testing web based system?**

Uncontrolled user interface, complex distributions, security, terminology etc.,

**86. Name some tasks for testing web based system.**

The task include web based software and hardware, web based risks and test plan, test tool etc.,

**87. what are the concerns to look upon while testing a web based system?**

There are many like browser capability, functional correctness, integration, usability etc.,

**88. Name the two major categories of QA tests.**

They are error based testing and scenario-based testing.

**89. Name two simple testing methods.**

Black box testing and white box testing.

**90. What are the two types of path testing?**

They are statement testing coverage and branch testing coverage.

**91. Write the three impacts of OO testing.**

They are less plausible errors, more plausible errors and new types of errors.

**92. Name the three steps to create a test plan.**

They are objectives the test, developing test case and test analysis.

**93. Write some guidelines for creating test plan.**

The guidelines are check all requirements, prepare a schedule, testing strategy, routine updates etc.,

**94. Name the essentials for continuous testing?**

Understand and communicate the business case, develop an internal infrastructure, look for leaders.



**95. Name some business perspective of testing.**

Business perspective of testing includes revising the testing process, assurance with the QAI – Model, budget estimation of the testing, preparation of world class testing process, testing as an organizational issue.

**96. Name the two important deliverables of a work bench.**

The deliverables are the Kiviat chart and the kiviatic foot print.

**97. Define milestone method of testing.**

Milestone method indicates either the extent of testing done or the extent of testing to complete.

**98. Name the steps followed in structured approach for testing.**

Structured approach for testing include the following steps like starting with a neat testing plan, plan should contain test strategy, test policy, test methodology etc.,

**99. Write the tasks for program phase testing.**

- Desk debug program process
- The program phase test factor analysis
- The peer review process

**100. What is the objectives of SQA?**

The objective of software quality assurance is to conduct various methods of testing and assure the quality of the software products by following the global standards and to produce robust, efficient compatible and easy to use applications.

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**1. What are the four basic components in software development process?**

The four basic components in software development are as:

- Plan
- Do
- check
- Act
- Planning the preliminary phase during the analysis
- Do goes with the design and development of the software
- Check test and conducts reviews and decide the follow up rework
- Act is the result of the check procedures.

**2. Write the economics of testing using the test cost curve.**

Economics of testing using the test cost curve is

- Too little testing is a sin and too much testing is crime
- Novice errors are 30 per 1000 lines of code
- Proper testing makes it 1 error per 30000 lines of code.
- The test cost curve is mapped against the cost of testing and the extent of testing
- Cost of errors different phases will have its own impacts.

**3. Explain the business perspective of testing.**

- Revising the test process
- Assurance with QAI model
- Budget estimation of the testing
- Preparation of world class testing process
- Testing as an organizational issue
- Test outsourcing process
- Hiring the testers

**4. Name any 6 steps in the 11 step testing process.**

The 6 steps are:

- assess project development, estimate and status
- Design phase testing
- Requirements phase testing
- Program phase testing
- Execute test and record results
- Acceptance testing etc

**5. Write in detail about assess project development, estimate and status?**

- Project plan, project environment
- Development process are the input to the test
- Workbench has 2 tasks check and reworking
- Test project estimate is task one
- Test project status is step two
- Check procedure is verification
- Rework is done of necessary
- Deliverables is a test report
- Guide lines must also be created

**6. Explain the development test plan in detail.**

- Inputs include project plan
- Project plan assess of the estimate and status

- Here are 4 tasks to be performed
- They include form test team
- Understand and project risk and concerns
- Build test plans and inspect test plan
- Rework is done if necessary

**7. Explain in detail design phase testing?**

- The inputs include design process
- Also the design phase deliverables that are obtained
- The do tasks are altogether 4 in number they are
- Score success factor, analyze design factors
- Rework will be done for faculty tests

**8. Explain requirements phase testing in detail.**

- The inputs include project requirements
- Requirements gathering process
- Preparing risk matrix
- Test factor analysis based on the test policy
- Check procedure is to check for correctness and completeness of the work
- Rework done if necessary
- Guidelines must also be prepared.

**9. Draw the workbench of requirements phase testing**

- Input procedures
- Do procedures and tasks
- Check procedures
- In case of rework any
- Deliverables
- Guidelines

**10. Write about how to evaluate test effectiveness**

- the steps included in the test process are
- Establish assessment measure
- Assign measurement and responsibility
- Select approach to evaluation
- Identify needed facts

- Collect evaluation data
- Assess effectiveness of testing

**11. Write in detail about developing test strategy.**

- strategies are minimally three
- Testing after the development is completed
- Testing at different phases of development
- Testing along with the development
- Test strategy includes test factor and test phases
- Factors are many like authorization
- Compliance, correctness

**12. Write about various structural and functional testing methods**

- Feasibility review
- Requirements review
- Execution test
- Recovery testing
- Operations testing
- Security testing

**13. Describe the eight consideration in developing testing methodologies**

- acquire and study the test strategy
- Determine the type of development project
- Determine the type of software system
- Identify the tactical risks
- Determine when testing should occur
- Build the system test plan
- Build the unit test plan

**14. Explain testing tools.**

- acceptance test criteria
- boundary value analysis
- cause effect graphing
- Checklist
- Code comparison
- Compiler based analysis
- Complexity based metric testing

**15. Why are defects hard to find?**

- not looking
- Looking but not seeing

## Explain test factors

- Correctness  
Authorization
- File integrity
- Audit trail
- Continuity of processing
- Service levels
- Access control
- Compliance
- Reliability
- Ease of use
- Maintainable
- Portable
- Ease of operations.