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Testing Concepts 1 Assignment

Exercise:

1. Difference between retesting and regression testing?

SOL :

Retesting	Regression testing
Re-testing is carried out to confirm the test cases that failed in the final execution are passing after the defects are fixed.	**Regression Testing** is carried out to confirm whether a recent program or code change has not adversely affected existing features.
Re-testing is a planned testing	Regression testing is known as a generic testing
Re-testing executes a defect with the same data and the same environment with different inputs with a new build	Regression testing is only done when there is any modification or changes become mandatory in an existing project
Retesting is done only for failed test cases	Regression testing is done for passed test cases
Re-testing makes sure that the original fault has been corrected	Regression testing checks for unexpected side-effects

2. Which of the one are part of functional testing -
a. UAT, Integration, Regression
b. Maintenance, Volume, Performance
c. Sanity, Localization, unit

SOL : a. UAT, Integration, Regression & c. Sanity, Localization, unit are part of functional testing.

3. System testing is done before integration testing – True/False

SOL : False, Integration testing is usually done before system testing and it comes after unit testing.

4. Confirmation testing is same as regression testing – True/False

SOL : False, as Confirmation Testing is same as retesting which is performed for failed test cases unlike regression testing where testing is only done when there is any modification or changes become mandatory in an existing project.

5. Difference between static and dynamic testing.

SOL : Static Testing is a type of software testing in which software application is tested without code execution.

Under **Dynamic Testing**, a code is executed. It checks for functional behavior of the software system, memory/cpu usage and overall performance of the system. Hence the name "Dynamic"

Static testing was done without executing the program whereas Dynamic testing is done by executing the program.

- Static testing checks the code, requirement documents, and design documents to find errors whereas Dynamic testing checks the functional behavior of software system, memory/CPU usage and overall performance of the system.
- Static testing is about the prevention of defects whereas Dynamic testing is about finding and fixing the defects.
- Static testing does the verification process while Dynamic testing does the validation process.
- Static testing is performed before compilation whereas Dynamic testing is performed after compilation.
- Static testing techniques are structural and statement coverage while Dynamic testing techniques are Boundary Value Analysis & Equivalence Partitioning.

6. Difference between SDLC & STLC

SOL :

Parameter	SDLC	STLC
Origin	Development Life Cycle	Testing Life Cycle
Objective	The main object of SDLC life cycle is to complete successful development of the software including testing and other phases.	The only objective of the STLC phase is testing.
Requirement Gathering	In SDLC the business analyst gathers the requirements and create Development Plan	In STLC, the QA team analyze requirement documents like functional and non-functional documents and create System Test Plan
High & Low-Level Design	In SDLC, the development team creates the high and low-level design plans	In STLC, the test analyst creates the Integration Test Plan
Coding	The real code is developed, and actual work takes place as per the design documents.	The testing team prepares the test environment and executes them
Maintenance	SDLC phase also includes post-deployment supports and updates.	Testers, execute regression suits, usually automation scripts to check maintenance code deployed.

7. List 3 advantage/disadvantage of Waterfall model

SOL : The **advantages** of Waterfall Model are :

-This model is easy and simple and to understand and utilize.

-It is quite a simple to manage due to the rigidity of the model -each phase has a specific review process and deliverables.

-In this model, phases are prepared and completed one at a time. Phases do not overlay.

-The waterfall model operates well for smaller projects where requirements are precisely defined and very well understood.

The **disadvantages** of Waterfall model are :
-It is extremely difficult to proceed back and correct something that was not well-thought-out in the concept stage once an application is in the testing stage.
-No effective software is produced until late throughout the life cycle.
-Not an efficient model for object-oriented and complex projects.
-High amounts of uncertainty and risk.

8. What do you understand by the term Functional testing?
SOL :FUNCTIONAL TESTING is a type of software testing that validates the software system against the functional requirements/specifications. The purpose of Functional tests is to test each function of the software application, by providing appropriate input, verifying the output against the Functional requirements.
Functional testing mainly involves black box testing and it is not concerned about the source code of the application. This testing checks User Interface, APIs, Database, Security, Client/Server communication and other functionality of the Application Under Test. The testing can be done either manually or using automation.

9. Is it true that we can do system testing at any stage?
SOL : No,System testing is the final stage of the verification process. In this stage, testers see whether or not the collective group of integrated components is performing optimally. The process is crucial for the quality life cycle, and testers strive to evaluate if the system can fulfill the quality standards and complies with all major requirements.

10. List down difference between validation and verification processes
SOL :

Verification	**Validation**
It includes checking documents, design, codes and programs.	It includes testing and validating the actual product.
Verification is the static testing.	.Validation is the dynamic testing.
It does *not* include the execution of the code.	It includes the execution of the code.
Methods used in verification are reviews, walkthroughs, inspections and desk-checking.	Methods used in validation are Black Box Testing, White Box Testing and non-functional testing.
It checks whether the software conforms to specifications or not.	It checks whether the software meets the requirements and expectations of a customer or not.
It can find the bugs in the early stage of the development.	It can only find the bugs that could not be found by the verification process.
The goal of verification is application and	The goal of validation is an actual product.

software architecture and specification.	
Quality assurance team does verification.	Validation is executed on software code with the help of testing team.
It comes before validation.	It comes after verification.

11. What are stubs and drivers

SOL : the term stubs and drivers refers to the replica of the modules, which acts as a substitute to the undeveloped or missing module. The stubs and drives are specifically developed to meet the necessary requirements of the unavailable modules and are immensely useful in getting expected results.

Stubs and drivers are two types of test harness, which is a collection of software and test that is configured together in order to test a unit of a program by stimulating variety of conditions while constantly monitoring its outputs and behavior. Stubs and drivers are used in top-down integration and bottom-up integration testing respectively and are created mainly for the testing purpose.

12. Final product or the software cannot be released without passing through the STLC process - True/False

SOL : True, **STLC** is a very important phase of **SDLC** and the final product or the software cannot be released without passing through the STLC process. STLC is also a part of the post-release/ update cycle, the maintenance phase of SDLC where known defects get fixed or a new functionality is added to the software.

13. Choose the correct one

a. Testing should start after development
b. Testing should start as early as possible in software cycle
c. Exhaustive testing is proof of delivering correct product
d. Testing is context independent

SOL : B

14. Maintenance testing deals with retesting to show that the rest of the system has not been affected by the maintenance work – True/False

SOL : False, Regression testing is used to show that the rest of the system has not been affected by the maintenance work

15. Maintenance testing deals with regression testing to show that the rest of the system has not been affected by the maintenance work – True/False

SOL : True

16. Unit testing is performed by developers - True/False
SOL : True

17. In V model testing activities are carried out in parallel with development activities - True/False
SOL : True

18. Static testing include –
a. Inspection, regression, unit testing
b. Retesting, system, End user
c. Review, inspection, Walkthrough
d. Review, inspection, acceptance
SOL : C

19. Acceptance testing is most often focused on a validation type of testing - True/False
SOL : True

20. Integration testing focuses on testing different modules all together - True/False
SOL : True