









Q2) Explain why testing can only detect the presence of errors, not their absence?

Ans) In the process of creating a software, testing is a process in which it looks up for any errors in the software. There are different set of activities in testing process, in which testers make the software go through different conditions to check if the software meets the client requirements. It shows if the software is incorrect in any way.

Q2.2) Define the terms:

1. UNIT TESTING:- In unit testing, every unit of a software and its other components are individually tested. The main focus of unit testing is to test and verify each designed unit. It is also known as the smallest part of software being tested. It is performed by white box method. It is the first level of testing before execution. It has several tasks as well.

- 2) **SYSTEM TESTING:-** System testing is a technique in which it runs test on the complete software. The software is tested in end-to-end encryption. The software is usually interfaced with different softwares. It is a series of tests to validate the computer system. It tests how the peripherals interact with each other e.t.c.
- 3) **BLACK BOX TESTING:-** In this part of testing, the functions of Application Under Test also known as (AUT) is tested without going through the structure of internal coding. The internal paths and code implementations are ignored. In this testing our main focus is on the input and output of the software.
- 4) **WHITE BOX TESTING:-** In this part of testing the solution of software's internal specifications are tested. It is also known as Clear Box or open Box testing. It focuses on improving the design and usability. The name 'WhiteBox' also refers to see through or inside testing.

Q3.1) Briefly describe three main types of software maintenance. Use example to explain why it is sometimes ~~to~~ difficult to ~~ext~~ distinguish blw them?

Ans) The three main types of software maintenance are :- 1) Corrective
2) Adaptive 3) Perfective.

1) Corrective: This maintenance is responsible for fixing all the errors in the software when it is in use. It is also known as Bug fixing.

2) Adaptive:- It is responsible for the maintenance of software to make it adapt the new changes to be ready for the use of new operating systems.

3) Perfective: This process includes the adding of new functions and features to the system.

It gets difficult sometimes to differentiate between them because same set of changes can occur at one time. For example a fault in system can be fixed by upgrading and adapting new software. (Corrective+adapting).

Q3.2)

Ans The factors that affect the costs of reengineering can be as follows:

- (i) Quality of Software: Lower the quality of software and its attached documents, higher re-engineering costs will be applied.
- (ii) Supportive tools: Using CASE tools to automatically create most programs results in higher cost of re-engineering.
- (iii) Data Conversion size: If the size of a data is significantly large, it generally increases the cost.
- (iv) Skills of employees: The staff involved in maintaining should be involved in re-engineering process as they understand the system better.

