Software Testing

Assignment- 1

TYPE OF QUESTION: MCQ/MSQ

Number of questions: **10**   **Total mark: 10 X 1 = 10**

For each of the following questions one or more of the given options are correct. Choose the correct options.

QUESTION 1:

Pick the correct statement from the following:

  a. Every programming error causes a bug
  b. Every programming error is caused by a failure
  c. Every failure is caused by a fault
  d. Every bug can be tracked to a programming error
  e. Every bug causes a failure

Correct Answer: c. Every failure is caused by a fault

Detailed Solution:
Every failure is caused by a fault. Please refer to the Software Testing lecture material of week-1 from page no. 2 to page no. 5.

QUESTION 2:

The main purpose of integration testing is to find which one of the following types of errors?

  a. Logic errors
  b. algorithm errors
  c. Arithmetic errors
  d. Design errors
  e. Module interfacing errors

Correct Answer: e. Module interfacing errors

Detailed Solution:
Integration test evaluates a group of functions or classes:
Identifies interface compatibility, unexpected parameter values or state interactions, and run-time exceptions. So, option **e**. is correct among all the options.

QUESTION 3:

Which of the following are performance test cases for a Library automation software?

a. Measuring the response time of book issue
b. Checking whether a book is correctly removed from the list of borrowed books of a member after return of the book
c. Checking how easy the system is to use by a member
d. Checking if after the details of a procured book is entered, it is corrected added to the book list
e. Checking whether a member can issue out a reserved book

Correct Answer: a. Measuring the response time of book issue
c. Checking how easy the system is to use by a member

Detailed Solution:

Performance testing determines whether a system or subsystem meets its non-functional requirements:
•Response times, Throughput, Usability, Stress, Recovery, Configuration, etc. So, option a. and c. are correct.

QUESTION 4:

Usability issues are tested during which one of the following type of testing?

a. Unit testing
b. Integration testing
c. Performance testing
d. Regression testing
e. Smoke testing

Correct Answer: c. Performance testing

Detailed Solution:

Performance testing determines whether a system or subsystem meets its non-functional requirements:
•Response times, Throughput, Usability, Stress, Recovery, Configuration, etc.

QUESTION 5:

The purpose of the error seeding technique is which of the following?

    a. Determine the origin of the bugs

    b. Plant trojans in code

    c. Determine the number of latent bugs

    d. Plant insidious bugs before delivery to the customer

    e. Introduce known bugs in code to determine whether testing is adequate

Correct Answer: c. Determine the number of latent bugs
e. Introduce known bugs in code to determine whether testing is adequate

Detailed Solution:

The purpose of the error seeding technique is to determine the number of latent bugs and also to check whether the test cases are adequate enough to determine the known bugs.

QUESTION 6:

Which of the following are **false** concerning verification?

    a. Helps answer the question: "Have you built the right thing?"

    b. Concerns checking the final product against its specification.

    c. Usually carried out by the test team.

    d. May consist of review and simulation activities

    e. Checks whether an artifact produced at the end of a phase conforms to the corresponding artifact produced in a previous phase.

Correct Answer: a. Help answer the question: "Have you built the right thing?"
    b. Concerns checking the final product against its specification.
    c. Usually carried out by the test team.

Detailed Solution:

Verification carried out by the developers. It checks whether the built product is right. Verification consist of review and simulation and check whether an artifact produced at the end of a phase conforms to the corresponding artifact produced in a previous phase.

QUESTION 7:
Who among the following performs acceptance testing?

      a. Customer
      b. Quality assurance team of the developing organization
      c. Developers
      d. System analysts
      e. Test team of the developing organization
      f. Independent third party testers

Correct Answer: a. Customer
Detailed Solution:

Acceptance Testing is performed by people who are not employees of the organization that developed the software. Acceptance Testing is mainly performed by the customers of the organization that developed the software. They are the ones who asked the organization to develop the software.

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QUESTION 8:
Which one of the following testing techniques would be effective for testing whether a developed software meets its non-functional requirements?

      a. Path testing
      b. Dataflow testing
      c. Performance testing
      d. Robust boundary-value testing
      e. Smoke testing

Correct Answer: c. Performance testing

Detailed Solution:
Performance test determines whether a system or subsystem meets its non-functional requirements.

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QUESTION 9:

Unit testing of a software module does **NOT** test which of the following?

 a. Whether the module interfaces well with other modules.
 b. Whether the functions in the module are working as per design.
 c. Whether all arithmetic statements in the module are working properly.
 d. Whether the module meets the non-functional requirements specified in the SRS document
 e. Whether all control statements in the module are working properly.

Correct Answer: a. Whether the modules interfaces well with other modules.
 d. Whether the module meets the non-functional requirements specified in the SRS dociment

Detailed Solution:

Module interfaces with other modules tested during integration testing. The non-functional test comes under **a black box testing technique**.

QUESTION 10:

Suppose an untested program was determined to contain 1280 bugs. Three different testing techniques were applied to test the code. Each testing technique is effective to detect 50% of the bugs that exist before the concerned testing technique is applied. After each testing strategy is applied a bug fix cycle is carried out. While fixing a bug, there is a 50% chance of creating another bug. How many bugs would exist in the code after the three testing and bug-fix cycles have been carried out?

 a. 400
 b. 540
 c. 760
 d. 840
 e. 1024

Correct Answer: b. 540

Detailed Solution:

Test 1: Total bugs = 1280, 50% of 1280 = 640, 50 % of 640 = 320, remaining bugs = 1280-640+320=960. Test 2: Total bugs = 960, 50% of 960 = 480, 50 % of 480 = 240, remaining bugs = 960-480+240=16 = 720. Test 3: Total bugs = 720, 50% of 720 = 360, 50% of 360 = 180, Remaining final bugs= 720-360+180=540