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Examination Paper

Course Name: Software Testing (0721430, 721386, 761467)   **Section: 1**

Semester 1   **First Exam**   **Date**: Nov, 17th, 2014   **Time**: 50 minutes

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Information for Candidates
  1. *This examination paper contains questions* ***6*** *totaling* **20 marks (1 mark bonus)**
  2. *The marks for parts of questions are shown in round brackets.*
Advice to Candidates
  1. *You should attempt all questions*
  2. *You should write your answers precisely, clearly and to the point.*

I. Basic Notions
Objectives. *The aim of the question in this part is to evaluate the required minimal student knowledge and skills. Answers in the pass category represent the minimum acceptable standard.*

Question 1 (3 marks)

Explain what you understand by the terms:

Validation - typically involves actual testing and takes place after verifications are completed.

▪   Building the correct product

Verification - typically involves reviews and meeting to evaluate documents, plans, code, requirements, and specifications. This can be done with checklists, issues lists, walkthroughs, and inspection meeting.

▪   Building the product correctly

 Software testing: " Testing is the process of executing a program with the intent of finding errors."

Question 2 (2 marks)
What is Objectives of testing?

   Answer:

Objectives of testing

 • Executing a program with the intent of finding an *error*.

 • To check if the system meets the requirements and be executed successfully in the Intended environment.

 • To check if the system is " Fit for purpose".

 • To check if the system does what it is expected to do.

 • A good test should neither be too simple nor too complex

Question 3 (2 Marks):

A. Why Test plan is needed? Or Why Write a Software Test Plan?

Answer:

Purpose of preparing a Test Plan

- Validate the acceptability of a software product.
- Help the people outside the test group to understand 'why' and 'how' of product validation.
- A Test Plan should be
    - thorough enough (Overall coverage of test to be conducted)
    - useful and understandable by the people inside and outside the test group.

II. Familiar Problems Solving

Objectives. The aim of the question in this part is to evaluate that the student has some basic knowledge of the key aspects of the lecture material and can attempt to solve familiar problems.

Question 4 (4 marks) :

Describe how you will use testing strategies in perfect way

Hint: list them describe how you will use them through any system testing life cycle.

Answer:

Testing and Improving (Testing and Tuning)
- The most widely used strategy for testing within the development process.
- Testing and error correction are not separated in this strategy.

Automated Testing
- Tools have their own programming language for creating test scripts.

Smoke Tests
Quick test to see if software is operational

Exploratory Testing
- Unfamiliar with the program to be tested.

Testing by Using

Regression Testing

Question 5 (4 marks) :

What is to be done with the test results? Explain with example.
  Answer:

- the result should be recorded more formally, e.g. in a database of completed tests and outcomes.
- Name of the tester[s], date of the test program tested, program version),
- the test document should document the three stages of the test,
  - Planning (what is actually being tested),
  - Execution (how it was tested) and
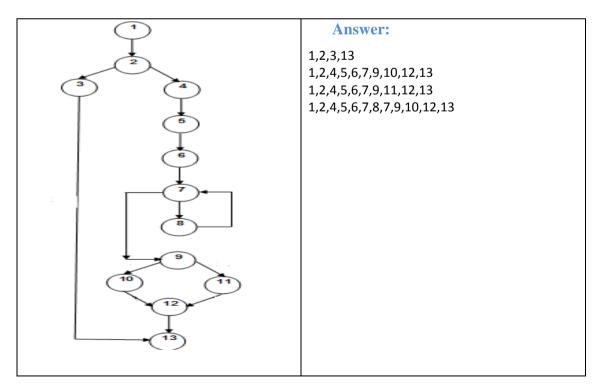 - Assessment (what should have been the correct result, what was the actual result).

Test Case Template

Family Name:	
Given Name:	

Test # (Number each test case)	Test Description (Describe reason for test or functionality being tested.)	Inputs (What actions or data needs to be provided.)	Expected Output / Resulting Action (Describe what should be the result of the input actions)	Pass / Fail (Use P or F to indicate. Where it fails, correct the defect and provide details of the actions taken to correct it)
1				
2				
3				
4				
5				

Question 6 (4 marks)
Based on the following node graph, Find out Full Path Coverage

Answer:

1,2,3,13
1,2,4,5,6,7,9,10,12,13
1,2,4,5,6,7,9,11,12,13
1,2,4,5,6,7,8,7,9,10,12,13

III. Unfamiliar Problems Solving

Objectives. The aim of the question in this part is to evaluate that the student has some basic knowledge of the key aspects of the lecture material and can attempt to solve unfamiliar problems.

Question 6 (2 marks)

Based on question 4 which Testing Strategies is the best? and why?

Answer:

There is no one is the best, each one has its own place to work.

We have to write testing strategies and plans to test both internal and external systems.

Develop a testing strategy and set testing priorities based on the risks that the failure of a system may have on operations.