A10.2-R4: SOFTWARE TESTING & QUALITY MANAGEMENT

NOTE:

1. There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.

2. **PART ONE** is to be answered in the **OMR ANSWER SHEET** only, supplied with the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book.

3. Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates, who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE**.

TOTAL TIME: 3 HOURS **TOTAL MARKS: 100**

(PART ONE – 40; PART TWO – 60)

PART ONE
(Answer all the questions)

1. Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

1.1 Acceptance testing is be done by
A) User
B) Quality control
C) Quality assurance
D) Senior management

1.2 Main objective of configuration management is to
A) maintain baseline for each version
B) build software libraries
C) get the right change installed at the right time
D) to help top management in resource allocation

1.3 A regression test
A) Will always be automated
B) Will help ensure unchanged areas of the software have not been affected
C) Will help ensure changed areas of the software have not been affected
D) Can only be run during user acceptance testing

1.4 If an expected result is not specified then
A) We cannot run the test
B) It may be difficult to repeat the test
C) It may be difficult to determine if the test has passed or failed
D) We cannot automate the user inputs

1.5 A reliable system will be one that
A) Is unlikely to be completed on schedule
B) Is unlikely to cause a failure
C) Is likely to be fault-free
D) Is likely to be liked by the users

1.6 Equivalence partitioning is
A) A black box testing technique used only by developers
B) A black box testing technique than can only be used during system testing
C) A black box testing technique appropriate to all levels of testing
D) A white box testing technique appropriate for component testing

1.7 When a new testing tool is purchased, it should be used first by
A) A small team to establish the best way to use the tool
B) Everyone who may eventually have some use for the tool
C) The independent testing team
D) The vendor contractor to write the initial scripts

1.8 Inspections can find all the following except
A) Variables not defined in the code
B) Spelling and grammar faults in the documents
C) Requirements that have been omitted from the design documents
D) How much of the code has been covered

1.9 Exhaustive Testing
A) Is impractical but possible
B) Is practically possible
C) Is impractical and impossible
D) Is always possible

1.10 Verification is
A) Checking that we are building the right system
B) Checking that we are building the system right
C) Performed by an independent test team
D) Making sure that it is what the user really wants

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

2.1 Data flow analysis is not a static testing technique.

2.2 Static tests involve executing software under test.

2.3 Boundary value analysis techniques is NOT a White box technique.

2.4 A Project risk includes Error Prone software delivered.

2.5 To test a function, the programmer has to write a driver, which calls the function and passes it test data.

2.6 Verification is checking that we are building the system right.

2.7 During Execution test activity could faults be found most cost effectively?

2.8 TextBox.text ="anna" is SQL syntax to store the data.

2.9 Flow Chart method is not way of programming.

2.10 Product measurements are collected in a software project to analyze the reliability

3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

X		Y	
3.1	Testing Technique	**A.**	LOC tools
3.2	Requirement Phase	**B.**	ORACLE
3.3	Statement Coverage	**C.**	Project status
3.4	Process starting with the terminal modules	**D.**	White box method
3.5	Test matrix	**E.**	Basis block coverage
3.6	Testability	**F.**	Authorization rules
3.7	Cyclomatic Complexity	**G.**	Bottom-up integration
3.8	Data Base	**H.**	Freeze requirements
3.9	Security Testing	**I.**	Robustness
3.10	Measurement tool	**J.**	Regression Testing
		K.	Inspection
		L.	Visual Basic
		M.	Project method

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

A.	Project plan	**B.**	Driver	**C.**	Proxy
D.	Error guessing	**E.**	Data flow analysis	**F.**	Black Box
G.	Test set	**H.**	Inspections	**I.**	Procedure
J.	Document Generator	**K.**	Test Plan module	**L.**	Loop Testing
M.	Stub				

4.1 To test a function, the programmer has to write a _____, which calls the function and passes it test data.

4.2 _____ of the following is a static testing technique.

4.3 Nested Loops can be successfully tested using _____.

4.4 The programmer use _____ to write a program step-by-step.

4.5 Quality Center enables you to generate graphs from the_____.

4.6 You use Live Analysis graphs to view data that relates to a _____ folder.

4.7 The _____ enables you to create a hard copy of the data contained in a Quality Center project.

4.8 Purpose of _____ is to find how much of the code has been covered.

4.9 _____ testing is a technique appropriate for all levels of testing.

4.10 The inputs for developing a test plan are taken from _____.

PART TWO

(Answer any **FOUR** questions)

5.

a) Define the terms Software Testing and Software Quality with suitable examples?
b) Differentiate between Software Verification and Validation?
c) Describe various benefits of automated testing?

(5+5+5)

6. Write short notes on **any three** of the following:

a) ISO 9000
b) Walkthrough
c) Mutation testing
d) Test Plan

(5+5+5)

7.

a) What do you mean by Risk in Software Testing? Define the Risk factor.
b) What is System Test Report? Define static analysis in test reporting.

(7+8)

8.

a) What are the common problems in Software Development Process?
b) What is Software Life Cycle?
c) Explain Test Case and Test Plan.

(5+5+5)

9. Differentiate amongst:

a) System Software and Application Software
b) White box testing and Black Box Testing
c) Algorithm and Pseudo Code

(5+5+5)