BE7-R4: SOFTWARE TESTING AND 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 **TEAR-OFF ANSWER SHEET** only, attached to 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 "tear-off" answer sheet attached to the question paper, following instructions therein.** **(1x10)**

1.1 Which of the following statistical tools can be used to represent a large amount of data in simple chart form?
A) Cause and effect diagram
B) Histogram
C) Pareto chart
D) Control chart

1.2 Test are prioritized so that
A) You shorten the time required for testing
B) You do the best testing in the time available
C) You do more effective testing
D) You find more faults

1.3 The inputs for developing a test plan are taken from
A) Project plan
B) Business plan
C) Support plan
D) None of the above

1.4 Which of the following is not a part of the Test Implementation and Execution Phase?
A) Creating test suites from the test cases
B) Executing test cases either manually or by using test execution tools
C) Comparing actual results
D) Designing the Tests

1.5 A Person who documents all the issues, problems and open points that were identified during a formal review is known as
A) Moderator
B) Scribe
C) Author
D) Manager

1.6   A 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

1.7   Static analysis is best described as
A)   The analysis of batch programs.
B)   The reviewing of test plans.
C)   The analysis of program code.
D)   The use of black box testing.

1.8   With the acquisition of a testing tool, the test engineer's first priority is to
A)   Decide how much to pay
B)   Check with end-user first
C)   Identify the goal for the tool usage
D)   Make sure that the management agrees to the use of the tool

1.9   What can you use to select an object as a verification point?
A)   the object finder, the object picker, or the object browser
B)   the main object browser, the test object browser, or the extra object browser
C)   the object finder, the test object browser, or the delay method
D)   the delay method, the scripting method, or the pointer method

1.10   Data collected during testing should include
A)   Test Factors
B)   Functions/subroutines
C)   Platforms
D)   All of the above

2. **Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "tear-off" sheet attached to the question paper, following instructions therein.** **(1x10)**

2.1 One of the features of Object Oriented programming is: Emphasis on procedure rather than data.

2.2 Function/Test matrix is a type of Project status report.

2.3 Faults in requirements are the most expensive to fix.

2.4 Functional testing technique helps to ensure that the requirement/specifications are properly satisfied by the software system.

2.5 When DLL files are unregistered or removed, due to uninstalling or installing, is called DLL Hell.

2.6 Water fall model is the one of the model of software testing.

2.7 Static linking and window file protection is a solution for the conflicting DLL Problems.

2.8 The purpose of boundary value analysis is to concentrate the testing effort on error prone areas by accurately pinpointing the boundaries of conditions.

2.9 Performance testing can be done during unit testing as well as during the testing of whole system.

2.10 Alpha testing is post-release testing by end user representatives at the developer's site.

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 "tear-off" answer sheet attached to the question paper, following instructions therein.** **(1x10)**

X		Y	
3.1	WinRunner	**A.**	A small information stored in the system
3.2	TestDirector	**B.**	Detecting defects in products and services
3.3	SQL Injection	**C.**	Determine at what point the system's response time degrades or fails
3.4	Brute Force Attack	**D.**	A framework for the assessment of software processes
3.5	Quality Assurance	**E.**	Tell which problems occur most often
3.6	Quality Control	**F.**	Manages test scripts, defects and test plan
3.7	Load Testing	**G.**	A malicious user could provide unexpected inputs to the application
3.8	Cookie	**H.**	Handles automation test scripts
3.9	Pareto analysis	**I.**	Prevention of introduction of defects
3.10	SPICE	**J.**	Software attempts to guess the associated password by trying to login again and again
		K.	A way/method to ascertain software efficiency
		L.	To eliminate redundant functionality
		M.	Tool to comment on Application Security

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 "tear-off" answer sheet attached to the question paper, following instructions therein.** **(1x10)**

A.	Reduce Variability	**B.**	Equivalence Partitioning	**C.**	Regression Testing
D.	Top Down Approach	**E.**	Logic driven	**F.**	Driver
G.	Validation	**H.**	Verification	**I.**	Transaction processing system
J.	Defect Tracking system	**K.**	Bottom Up approach	**L.**	Ensure absolute security
M.	Limitation				

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

4.2   One of the primary objectives of process control is to _____.

4.3   Method typically used to reduce the total number of test cases to a finite set of testable test case is _____.

4.4   The two phases of playing back a script are script development and _____.

4.5   The best place to log 'incidents' is in a _____.

4.6   White box testing is primarily _____.

4.7   The strategy that often resembles a "seed" model, whereby the beginnings are small, but eventually grow in complexity and completeness, is known as _____.

4.8   The strategy where design begins by specifying complex pieces and then dividing them into successively smaller pieces is called _____.

4.9   "Am I designing the right project as per SRS", is called _____.

4.10   "Am I designing the project right according to SRS", is called _____.

(PART TWO)
(Answer any **FOUR** questions)

5.
a) It is observed that the testers in your organization are performing tests on the deliverable even after significant defects have been found. This has resulted in unnecessary testing of little value because re-testing needs to be done after defects have been rectified. You are the test manager and going to update the test plan with recommendations on when to stop testing. List the recommendations you are going to make.
b) What is the role of QAG (Quality Assurance Group) in project development?
c) What are the key challenges of software testing?

(6+5+4)

6.
a) What is difference between Performance Testing, Load Testing and Stress Testing?
b) What are the consequences of SQL Injection?

(10+5)

7.
a) What are the various Security aspect that should be taken into account during Application Testing?
b) Define the following:
   i)   Unit Testing
   ii)   Integration Testing
   iii) Functional Testing
   iv)   System Testing

(7+8)

8.
a) What is Quality?   What are the various factors, which are used to measure software development Quality?
b) What is the difference between Black box testing and White box testing?

(12+3)

9.
a) Describe, what is a DLL?
b) What is CMM? Describe the various level of organization maturity in CMM model?

(5+10)