University of Mumbai
Examination 2020

Program: **Information Technology**

Curriculum Scheme: Rev-2016

Examination: BE   Semester VIII

Course Code: ITCDLO8046 and Course Name: Software Testing & Quality Assurance

Time: 2 hour   Max. Marks: 80

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	_____ is the strongest criterion for selecting test cases.
Option A:	ADPU
Option B:	APU
Option C:	AU
Option D:	AD
2.	System-level testing refers to _____
Option A:	testing of interactions among objects
Option B:	the internal testing of an individual method in a class
Option C:	external inputs and outputs visible to the users of a system
Option D:	testing of interactions among the components of an individual class
3.	____ method is used to generate Test cases when all other methods fail or it is the method for some special cases which need to be tested.
Option A:	Boundary Value analysis
Option B:	Equivalence Class testing
Option C:	Error Guessing
Option D:	Cause and effect graphing
4.	Any path through the program that _____ is called independent path.
Option A:	Introduces at least one new set of processing statements or a new condition
Option B:	Introduces at least 3 new set of processing statements or a new condition
Option C:	Introduces no new set of processing statements or a new condition
Option D:	Introduces new set of variables
5.	There may be surviving mutants that cannot be killed, these are called____
Option A:	Dead mutants
Option B:	Killable mutants
Option C:	Equivalent mutants
Option D:	Killed mutant
6.	Which of the following phase is early phase of testing?
Option A:	Debugging-oriented Phase
Option B:	Destruction-oriented Phase

Option C:	Evaluation-oriented Phase
Option D:	Demonstration-oriented Phase
7.	Boundary value analysis and equivalence class partitioning methods do not consider _____.
Option A:	Combinations of input conditions
Option B:	Inputs
Option C:	Outputs
Option D:	Boundaries
8.	If the outputs are not according to the standards or conventions , then it is known as_____
Option A:	Critical Bugs
Option B:	Major Bug
Option C:	Medium Bugs
Option D:	Minor Bugs
9.	ISO 9126 defines Usability as _____
Option A:	A set of attributes that bear on the effort needed for use and on the individual assessment of such use by a stated or implied set of users
Option B:	A set of attributes that bear on the existence of a set of functions and their specified properties. The functions are those that satisfy stated or implied needs.
Option C:	A set of attributes that bear on the capability of software to maintain its performance level under stated conditions for a stated period of time.
Option D:	A set of attributes that bear on the ability of software to be transferred from one environment to another (this includes the organizational, hardware or, software environment).
10.	____ activities include Unit Testing, Integration Testing, Function Testing , System Testing and Acceptance Testing.
Option A:	Verification
Option B:	Validation
Option C:	White box
Option D:	Black box
11.	What testing is also called as negative testing?
Option A:	Load testing
Option B:	Performance testing
Option C:	Stress testing
Option D:	Regression Testing
12.	Defining the Test Strategy & Estimating of the number of test cases, their duration and cost is performed in which phase of STLC.
Option A:	Test Planning
Option B:	Test Design
Option C:	Test Execution

Option D:	Post-Execution
13.	Which of the following is not a types of Static Testing?
Option A:	Software Inspections
Option B:	Walkthroughs
Option C:	System Testing
Option D:	Technical Reviews
14.	Which of the following is not an incremental approach for Integration Testing
Option A:	Top down
Option B:	Bottom up
Option C:	Sandwich
Option D:	Big bang
15.	Which of the following is an immediate Goal of Software Testing?
Option A:	Bug discovery and prevention
Option B:	Reduced maintenance cost
Option C:	Quality
Option D:	Customer satisfaction
16.	The ____ was developed as a framework to improve the software process in an organization.
Option A:	Six Sigma
Option B:	ISO 9126
Option C:	STQM
Option D:	CMM
17.	Where the Beta testing is done?
Option A:	At Developer's end
Option B:	At User's end
Option C:	At Server end
Option D:	At Developer's & User's end
18.	In the testing phase_____ is analyzed when the failure occurs.
Option A:	incidents
Option B:	error
Option C:	Test case
Option D:	test case plan
19.	What is the proper sequence of software testing?
Option A:	Function testing, integration testing, system testing, acceptance testing, unit testing
Option B:	Unit testing, integration testing, function testing, system testing, acceptance testing
Option C:	Unit testing, integration testing, system testing, function testing, acceptance testing
Option D:	Unit testing, function testing ,integration testing, system testing, acceptance

	testing
20.	If a flow graph has 13 edges and 11 nodes the value of its cyclomatic complexity is _____
Option A:	2
Option B:	20
Option C:	4
Option D:	3

Q2.	Solve any Two Questions out of Three	10 marks each
A	Explain Software Testing Life Cycle (STLC) in brief.	
B	What are the guidelines for selecting a testing tool? Explain in brief one tool used for Load Testing.	
C	Briefly explain McCall's quality factors and quality criteria.	

Q3.	Solve any Two Questions out of Three	10 marks each

A	Draw Control flow graph for the following code and compute its cyclomatic complexity using all the three methods.
	
	int binsearch (int X, int V[], int n){
	    int low, high, mid;
	    low = 0;
	    high = n – 1;
	    while (low <= high){
	        mid = (low + high) /2 ;
	        if (X < V [mid])
	            high = mid – 1;
	        else if (X > V[mid])
	            low = mid + 1;
	        else
	            return mid;
	    }
	    return -1;
	}	

B	What are the challenges in testing a web application? Differentiate between stress, performance and scalability testing.	
C	Explain Test suite Prioritization and its types.	