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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA

SEM: III - THEORY EXAMINATION (2024 - 2025)

Subject: Advance Software Testing

Time: 3 Hours

Max. Marks: 100

General Instructions:*IMP: Verify that you have received the question paper with the correct course, code, branch etc.**1. This Question paper comprises of three Sections -A, B, & C. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.**2. Maximum marks for each question are indicated on right -hand side of each question.**3. Illustrate your answers with neat sketches wherever necessary.**4. Assume suitable data if necessary.**5. Preferably, write the answers in sequential order.**6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.***SECTION-A**

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1. Attempt all parts:-

- 1-a. Test Environment Setup phase involves _____. (CO1, K1) 1
- (a) Executing test cases
 - (b) Configuring the test environment
 - (c) Designing test cases
 - (d) Analyzing requirements
- 1-b. The goal of Requirement Analysis phase is _____. (CO1, K1) 1
- (a) To design test cases
 - (b) To understand software requirements
 - (c) To execute test cases
 - (d) To close defects
- 1-c. The primary purpose of a Risk Assessment Matrix in Risk-Based Testing. (CO2, K2) 1
- (a) Identify defects
 - (b) Prioritize risks
 - (c) Execute test cases
 - (d) Document test results
- 1-d. During which phase does a Test Analyst collaborate with the development team to understand technical risks? (CO2, K2) 1
- (a) Requirement Analysis

- (b) Test Planning
 - (c) Test Execution
 - (d) Risk Identification
- 1-e. Primary goal of functional testing in black box testing is _____. (CO3, K1) 1
- (a) Testing the code's internal structure
 - (b) Verifying the functionality of the software
 - (c) Measuring the performance of the system
 - (d) Identifying security vulnerabilities
- 1-f. Exploratory testing in black box testing is _____. (CO3, K2) 1
- (a) Testing without predefined test cases
 - (b) Testing only critical functionalities
 - (c) Testing with the help of a detailed test plan
 - (d) Testing based on historical data
- 1-g. The primary goal of software testing in terms of quality characteristics are _____. (CO4, K2) 1
- (a) Enhancing performance
 - (b) Ensuring security
 - (c) Detecting defects
 - (d) Improving user experience
- 1-h. The term "scalability" refer to in software quality characteristics are _____. (CO4, K1) 1
- (a) The software's ability to perform well under varying conditions
 - (b) The software's ability to handle a growing amount of work
 - (c) The software's ease of use
 - (d) The software's ability to recover from failures
- 1-i. In a review process, who typically leads a walkthrough? (CO5, K1) 1
- (a) Project manager
 - (b) Tester
 - (c) Author of the document being reviewed
 - (d) Team lead
- 1-j. The purpose of a review report in software testing _____. (CO5, K2) 1
- (a) To provide a summary of the review findings
 - (b) To document test cases
 - (c) To evaluate a work product
 - (d) To lead the review meeting

2. Attempt all parts:-

- 2.a. Define the term Test Case Development. (CO1, K1) 2

2.b.	Explain the term impact in Software Testing. (CO2, K2)	2
2.c.	Differentiate between Functional testing and non functional testing. (CO3, K2)	2
2.d.	Define the term Business Domain Testing . (CO4, K2)	2
2.e.	Explain User story review. (CO5, K2)	2

SECTION-B 30

3. Answer any five of the following:-

3-a.	Describe the characteristics of STLC. (CO1, K1)	6
3-b.	Describe Equivalence Class Testing with an example. (CO1, K1)	6
3-c.	Discuss different types of Risks in software testing. (CO2, K2)	6
3-d.	Explain the term People Risk and Organizational Risk in risk based testing. (CO2, K2)	6
3.e.	Explain statement based and decision based testing with example. (CO3, K2)	6
3.f.	Describe why Functional correctness testing is an important part of the software development process. (CO4, K2)	6
3.g.	Explain some examples of items that can be included on a checklist for software reviews. (CO5, K2)	6

SECTION-C 50

4. Answer any one of the following:-

4-a.	Discuss the term: (CO1, K2)	10
	(i) Test Planning	
	(ii) Test Environment Setup	
	(iii) Low level test cases	
	(iv) High level test cases	
4-b.	Differentiate between State transition testing and Equivalence Partitioning with example. (CO1, K2)	10

5. Answer any one of the following:-

5-a.	Explain the term in risk based testing: (CO2, K2)	10
	(i) Brainstorming	
	(ii) SWOT Analysis	
	(iii) Risk Assessment	
	(iv) Risk Mitigation	
5-b.	Explain the term Coverage based Test Case Prioritization and Risk based Prioritization. (CO2, K2)	10

6. Answer any one of the following:-

6-a.	Explain the following: (CO3, K2)	10
	(i) Equivalence Partitioning Testing	
	(ii) boundary value analysis	
	(iii) Decision Table Testing	
6-b.	Discuss different types of testing strategies for software testing in detail. (CO3, K2)	10

7. Answer any one of the following:-

7-a. Define the following software quality characteristics: (CO4, K2) 10
(i) Efficiency
(ii) Completeness
(iii) Portability
(iv) Accuracy

7-b. Define the following: (CO4, K2) 10
(i) Interoperability testing
(ii) Portability testing
(iii) Business Domain testing

8. Answer any one of the following:-

8-a. Elaborate how Automated test execution tools can be a valuable asset for any testing team? (CO5, K2) 10

8-b. Explain the following: (CO5, K2) 10
(i) Validation Review
(ii) User Story Reviews
(iii) Checklist Reviews

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