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
20

1. Attempt all parts:-

1-a.   STLC stands for_____. (CO1, K1)   1

    (a)   Software Testing Language and Criteria

    (b)   System Testing Life Cycle

    (c)   Software Test and Lifecycle

    (d)   Software Testing Life Cycle

1-b.   Purpose of regression testing in STLC is _____. (CO1, K1)   1

    (a)   To identify new defects in the software

    (b)   To ensure that new code changes have not introduced defects into existing functionality

    (c)   To test the performance of the software under heavy load

    (d)   To test the usability and user experience of the software

1-c.   The primary goal of Risk-Based Testing is _____. (CO2, K2)   1

    (a)   Identify defects

    (b)   Prioritize testing based on risks

    (c)   Execute test cases randomly

    (d)   Document test results

1-d.   In Risk-Based Testing, what is the purpose of risk categorization? (CO2, K2)   1

    (a)   Identify defects

    (b)   Prioritize risks

(c) Execute test cases

(d) Group risks for better management

1-e. Main goal of security testing is _____. (CO3, K2)   1

(a) Verifying the software's functionality

(b) Identifying and fixing performance issues

(c) Ensuring the software is resistant to unauthorized access and attacks

(d) Testing the software's compatibility

1-f. Best example of Boundary Value Analysis is _____. (CO3, K2)   1

(a) Testing with minimum, maximum, and just above or below the boundary values

(b) Testing inputs for correctness

(c) Testing input data with random values

(d) Testing with valid and invalid inputs only

1-g. The term "interoperability" refer to in software quality characteristics is _____. (CO4, K2)   1

(a) The software's ability to perform well under varying conditions

(b) The software's ease of use

(c) The software's ability to work with other systems

(d) The software's ability to recover from failures

1-h. The main purpose of Business Domain Testing is _____. (CO4, K2)   1

(a) To test the software's performance under high loads

(b) To verify that the software meets business requirements

(c) To ensure the software is user-friendly

(d) To test software security vulnerabilities

1-i. The primary role of the moderator in a review process _____. (CO5, K2)   1

(a) To find defects in the code

(b) To lead the review meeting

(c) To write the review report

(d) To execute test cases

1-j. The primary difference between a review and testing in software development _____. (CO5, K2)   1

(a) Reviews focus on finding defects, while testing focuses on validating functionality.

(b) Reviews are conducted by developers, while testing is conducted by testers.

(c) Reviews are manual, while testing can be manual or automated.

(d) Reviews are conducted after the code is developed, while testing is conducted before coding.

2. Attempt all parts:-

2.a. Define the term Test plan. (CO1, K1)   2

2.b. Explain risk-based testing. (CO2, K2)   2

2.c.	Distinguish between alpha and beta testing. (CO3, K1)	2
2.d.	Define Interoperability in term of Business Domain Testing. (CO4, K2)	2
2.e.	Define the term walkthrough. (CO5, K1)	2

SECTION-B 30

3. Answer any <u>five</u> of the following:-

3-a.	Discuss Software Testing Life Cycle with different phases. (CO1, K1)	6
3-b.	Describe State Transition testing with example. (CO1, K2)	6
3-c.	Explain Probability and Impact in risk based testing. (CO2, K2)	6
3-d.	Explain the term People Risk and Requirement Risk. (CO2, K2)	6
3.e.	Explain statement coverage and basis- path testing with example. (CO3, K2)	6
3.f.	Elaborate quality characteristics that are important for business domain testing. (CO4, K2)	6
3.g.	Explain why Requirements reviews are an important part of the software development process. (CO5, K2)	6

SECTION-C 50

4. Answer any <u>one</u> of the following:-

| 4-a. | Discuss the term Requirement Analysis,Test Planning and Test case Development. (CO1, K1) | 10 |
| 4-b. | Discuss the term : (CO1, K2)
(i) Exploratory testing
(ii) Boundary value analysis
(iii) Pairwise testing | 10 |

5. Answer any <u>one</u> of the following:-

| 5-a. | Differentiate between Checklist Analysis and SWOT Analysis in Risk based testing in detail. (CO2, K2) | 10 |
| 5-b. | Describe the different strategies for mitigating risks, such as avoidance, reduction, transfer, and acceptance. (CO2, K2) | 10 |

6. Answer any <u>one</u> of the following:-

| 6-a. | Discuss the differences between black box and white box testing. (CO3, K2) | 10 |
| 6-b. | Discuss Cause Effect Graph with an example. (CO3, K2) | 10 |

7. Answer any <u>one</u> of the following:-

| 7-a. | Define the following: (i) Business rules (ii)Business processes (iii)Business data (CO4, K2) | 10 |
| 7-b. | Explain the main quality characteristics for Business Domain Testing. (CO4, K2) | 10 |

8. Answer any <u>one</u> of the following:-

| 8-a. | Explain Automated test execution tools that provide a variety of features to help testers to automate their testing process. (CO5, K2) | 10 |
| 8-b. | Explain the following: (CO5, K2) | 10 |

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(i) Kickoff review
(ii) Business domain testing
(iii) Inspection

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