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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA

SEM: IV - THEORY EXAMINATION (2025 - 2026)

Subject: Software Quality and 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:-

- (1.1) _____ is the main purpose of test planning. (CO1, K2) 1
- (a) To execute tests
- (b) To define the test objectives and schedule
- (c) To monitor test results
- (d) To fix defects
- (1.2) Test control involves: (CO1, K2) 1
- (a) Running automation scripts
- (b) Reacting to test progress metrics
- (c) Writing bug reports
- (d) Deploying software
- (1.3) Non-functional testing focuses on: (CO2, K1) 1
- (a) Functionality only
- (b) Performance, usability, reliability
- (c) Source code quality
- (d) Feature completeness
- (1.4) Risk-based testing prioritizes tests based on: (CO2, K2) 1
- (a) Tester availability
- (b) Code complexity
- (c) Potential business impact and likelihood of failure
- (d) Number of lines of code
- (1.5) _____ is typically reviewed in a technical review. (CO3,K2) 1

- (a) Meeting notes
 - (b) Emails
 - (c) Design and code
 - (d) Release notes
- (1.6) The outcome of a review meeting is: (CO3,K2) 1
- (a) Test execution
 - (b) List of findings/defects
 - (c) Customer feedback
 - (d) Release note
- (1.7) _____ is NOT a defect state in the defect lifecycle. (CO4,K1) 1
- (a) New
 - (b) Fixed
 - (c) Reviewed
 - (d) Validated
- (1.8) In cross-functional defect management, which teams are typically involved? (CO4,K2) 1
- (a) Only the testing team
 - (b) Only the development team
 - (c) Development, QA, and operations teams
 - (d) Client support team only
- (1.9) _____ is the first step in selecting a testing tool. (CO5,K2) 1
- (a) Define testing requirements
 - (b) Evaluate cost
 - (c) Check compatibility
 - (d) Select vendor
- (1.10) _____ is NOT a typical feature of open-source testing tools. (CO5,K1) 1
- (a) Free usage
 - (b) High customizability
 - (c) No vendor support
 - (d) Paid support options

2. Attempt all parts:-

- (2.1) Describe the purpose of the test planning phase in the software testing process. (CO1, K2) 2
- (2.2) Describe the role of stakeholders in the software testing process. (CO2, K2) 2
- (2.3) Define Design Reviews. (CO3,K1) 2
- (2.4) Define Defect Analysis. (CO4,K1) 2
- (2.5) Explain the concept of custom tools in the context of software testing. (CO5,K2) 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Explain Equivalence Class Testing with an example. (CO1, K3) 6

(3.2)	Explain disadvantages of Early Test Implementation. (CO1, K2)	6
Answer any one of the following:-		
(3.3)	Define Coverage-Based Techniques. (CO2, K1)	6
(3.4)	Define Business Value-Based Prioritization. (CO2, K1)	6
Answer any one of the following:-		
(3.5)	Differentiate between Test Case Reviews and Test Plan Reviews. (CO3,K2)	6
(3.6)	Differentiate between Design Review Metrics and Code Review Metrics. (CO3,K2)	6
Answer any one of the following:-		
(3.7)	Differentiate between Defect Identification and Defect Logging. (CO4,K2)	6
(3.8)	Describe Key Objectives of Defect Management. (CO4,K2)	6
Answer any one of the following:-		
(3.9)	Define different Performance Testing in respect of Open-Source Testing. (CO5,K1)	6
(3.10)	Explain different Open-source tools in detail. (CO5,K2)	6
SECTION-C		50
4. Answer any <u>one</u> of the following:-		
(4.1)	Explain different phases of the Testing Process. (CO1, K2)	10
(4.2)	Explain the following: (i) Reporting (ii) Test Closure (iii) Test Execution. (CO1, K2)	10
5. Answer any <u>one</u> of the following:-		
(5.1)	Describe the different process of Developing and Implementing a Test Policy. (CO2, K3)	10
(5.2)	Explain the following:(i)Brainstorming(ii)Delphi Technique(iii)Checklist-Based Approaches. (CO2, K2)	10
6. Answer any <u>one</u> of the following:-		
(6.1)	Describe the key Focus Areas in Management Reviews? (CO3,K2)	10
(6.2)	Explain the following: (i)Code Reviews (ii) Test Plan Reviews (iii)Requirement Reviews. (CO3,K2)	10
7. Answer any <u>one</u> of the following:-		
(7.1)	Describe Benefits of Cross-Functional Defect Management. (CO4,K2)	10
(7.2)	Explain the following: (i) Defect Fixing (ii) Defect Verification (iii) Defect Closure. (CO4,K2)	10
8. Answer any <u>one</u> of the following:-		
(8.1)	Explain the following: (i) API Testing Tools (ii) Security Testing in testing Tools. (CO5,K3)	10
(8.2)	Analyze the importance of selecting the right testing tool for a project. (CO5, K4)	10