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

MCA (Integrated)

SEM: V - THEORY EXAMINATION (2025 - 2026)

Subject: Software Testing And Applications

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. Main objective of software testing is to ensure delivery of _____.(CO1,K1) 1
- (a) Cost savings
- (b) Quick release
- (c) Maximum code lines
- (d) Reliable product
- 1-b. Principle "Testing shows presence of defects" implies which result?(CO1,K2) 1
- (a) All bugs are fixed
- (b) Some defects exist
- (c) Features are complete
- (d) UI is finalized
- 1-c. Unit testing focuses on validation of _____.(CO2,K1) 1
- (a) Project requirements
- (b) Database schema
- (c) Individual components
- (d) User documentation
- 1-d. Smoke testing is first performed to confirm which system status?(CO2,K1) 1
- (a) Feature optimization
- (b) Basic stability
- (c) UI coverage
- (d) Tracking details
- 1-e. Scalability testing determines ability to support:(CO3,K1) 1

- (a) More users
 - (b) UI layouts
 - (c) Security
 - (d) Printing speed
- 1-f. Regression testing checks for new errors after _____.(CO3,K1) 1
- (a) Changes
 - (b) UI updates
 - (c) Speed boost
 - (d) Documentation
- 1-g. White box testing requires knowledge of _____.(CO4,K1) 1
- (a) Code logic
 - (b) Documentation
 - (c) Internal structure
 - (d) UI standards
- 1-h. Boundary value analysis is effective for which data inputs?(CO4,K2) 1
- (a) UI pages
 - (b) Edge values
 - (c) Middle values
 - (d) Cost audit
- 1-i. Test planning phase addresses which priority first?(CO5,K1) 1
- (a) Cost tracking
 - (b) UI styling
 - (c) Feedback
 - (d) Objectives
- 1-j. Test schedule phase is essential to tracking _____.(CO5,K1) 1
- (a) UI changes
 - (b) Testing timeline
 - (c) Cost
 - (d) Regression cycles

2. Attempt all parts:-

- 2.a. Explain defects and bugs in software testing.(CO1,K2) 2
- 2.b. Explain Regression Testing.(CO2,K2) 2
- 2.c. Define Security testing.(CO3,K1) 2
- 2.d. Explain about system testing.(CO4,K2) 2
- 2.e. Define requirements analysis in software testing.(CO5,K1) 2

SECTION-B 30

3.a. Answer any one of the following:-

- 3.a.(i) Design Positive test case on Login Page.(CO1,K3) 6
- 3.a.(ii) Differentiate between Testing and Quality.(CO1,K4) 6

3.b. Answer any one of the following:-

3.b.(i)	Explain the following:(CO2,K2) (i) Portability Testing (ii) Component Testing (iii) Efficiency testing	6
3.b.(ii)	Explain any of 4 functional testing types.(CO2,K2)	6
3.c.	Answer any one of the following:-	
3.c.(i)	Compare load testing and stress testing with suitable examples.(CO3,K4)	6
3.c.(ii)	Describe maintenance testing and outline situations where it becomes essential.(CO3,K2)	6
3.d.	Answer any one of the following:-	
3.d.(i)	Explain the following:(CO4,K2) (i) Decision Coverage Testing(ii) Multiple statement coverage testing.	6
3.d.(ii)	Describe Checklist-based testing in detail.(CO4,K2)	6
3.e.	Answer any one of the following:-	
3.e.(i)	Describe the structure of a traceability matrix and illustrate its importance in defect tracking.(CO5,K2)	6
3.e.(ii)	Analyze key components of a test plan such as scope, schedule, and approach.(CO5,K4)	6
<u>SECTION-C</u>		50
4.	Answer any <u>one</u> of the following:-	
4-a.	Describe various activities involved in Quality Assurance. How do these activities contribute to the overall quality of software?(CO1,K2)	10
4-b.	Identify and explain four typical objectives of software testing. How do these objectives help ensure the delivery of a high-quality software product?(CO1,K3)	10
5.	Answer any <u>one</u> of the following:-	
5-a.	Discuss different levels of Testing in detail.(CO2,K2)	10
5-b.	Discuss the prototype model. Define the effect of designing a prototype on the overall cost of the Software Project.(CO2,K2)	10
6.	Answer any <u>one</u> of the following:-	
6-a.	Compare Regression testing and Retesting with suitable Example.(CO3,K4)	10
6-b.	Define the following:(CO3,K2) (i) Compatibility Testing (ii) Recovery Testing (iii) Maintenance testing.	10
7.	Answer any <u>one</u> of the following:-	
7-a.	How can decision table testing be applied to effectively test a loan approval system with multiple criteria such as income level, credit score, and loan amount?(CO4,K3)	10
7-b.	Explain various techniques used in White Box Testing and their applications.(CO4,K2)	10
8.	Answer any <u>one</u> of the following:-	
8-a.	Explain the following:(CO5,K2) (i) Entry Criteria(ii) Exit Criteria(iii) Test Automation	10
8-b.	Explain the following:(CO5,K2) (i) Test Environment setup (ii) Test Data (iii) Traceability Matrix	10