Printed Page:- Subject Code:- BMCA0414

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA

SEM: IV - THEORY EXAMINATION (20..... - 20.....)

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-a. Boundary value analysis is part of:[CO1, K1] 1

(a) Test monitoring
(b) Test analysis
(c) Test design
(d) Test closure

1-b. Test closure involves_____.[CO1,K1] 1

(a) Planning new features
(b) Finalizing defect logs
(c) Executing test cases
(d) Designing test data

1-c. Effort allocation in testing should be based on_____.[CO2, K1] 1

(a) Team size
(b) Schedule buffer
(c) Risk levels and priorities
(d) Budget limits

1-d. Risk exposure is calculated using _____. [CO2, K1] 1

(a) Complexity * Cost
(b) Probability * Impact
(c) Priority * Effort

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(d) Time * Quality

1-e. Review efficiency improves when _____.[CO3,K1] 1

(a) Reviews are skipped
(b) Developers are excluded
(c) Checklists are used
(d) Deadlines are ignored

1-f. Defects found during reviews are _____.[CO3,K1] 1

(a) Ignored in metrics
(b) Logged for tracking
(c) Sent to customers
(d) Closed automatically

1-g. The defect report should always include _____.[CO4,K1] 1

(a) User feedback
(b) Steps to reproduce the defect
(c) Test case status
(d) Test execution time

1-h. In defect lifecycle management, what should be done if a defect is determined to be invalid?[CO4, K1] 1

(a) It should be closed and reported to the client
(b) It should be re-assigned to a different developer
(c) It should be discarded without action
(d) It should be logged as a new defect

1-i. The primary purpose of a testing tool's metrics is to:[CO5,K1] 1

(a) Evaluate its effectiveness
(b) Increase the tool's price
(c) Track tool usage by testers
(d) Compare different tools

1-j. During which phase of the tool lifecycle, bug fixes and updates are typically made? [CO5, K1] 1

(a) Maintenance
(b) Development
(c) Deployment
(d) Selection

2. Attempt all parts:-

2.a. Define Test Deliverable.[CO1, K2] 2

2.c. Describe Project Risk Management.[CO2, K2] 2

2.b. Explain Checklist-Based Approaches.[CO3, K2] 2

2.d. Explain the concept of defect states and their significance in defect 2

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management.[CO4, K2]

2.e.	List out different API Testing Tools.[CO5, K1]	2

SECTION-B 30

3. Answer any five of the following:-

3-a.	Differentiate between test analysis and test designing. [CO1, K4]	6
3-b.	Discuss advantages of Early Test Implementation.[CO1, K2]	6
3-c.	Discuss Boundary Value Analysis with an example. [CO2, K2]	6
3-d.	Describe different Effort Allocation Strategies.[CO2, K2]	6
3.e.	Differentiate between Requirement Reviews and Design Reviews.[CO3, K4]	6
3.f.	Differentiate between Defect Fixing and Defect Verification.[CO4, K4]	6
3.g.	Describe Challenges of Custom Testing Tools.[CO5,K2]	6

SECTION-C 50

4. Answer any one of the following:-

4-a.	Explain the following:[CO1, K2] (i)Error guessing(ii)Pairwise Testing(iii)Exploratory Testing	10
4-b.	Discuss the phases of software testing process with suitable examples. [CO1, K2]	10

5. Answer any one of the following:-

5-a.	Explain the following:[CO2, K2] (i)Fault Tree Analysis(ii)Brainstorming(iii)Delphi Technique.	10
5-b.	Discuss the selection criteria for testing techniques in a real-time project.[CO2, K2]	10

6. Answer any one of the following:-

6-a.	Explain the following:[CO3, K2] (i)Code Review Metrics(ii) Design Review Metrics(iii)Requirement Review Metrics.	10
6-b.	Discuss the management responsibilities in conducting successful reviews in detail.[CO3, K2]	10

7. Answer any one of the following:-

7-a.	Explain the following:[CO4, K2] (i)Defect Analysis (ii)Defect Fixing (iii)Defect Verification	10
7-b.	Illustrate the attributes of an effective defect report with examples.[CO4, K3]	10

8. Answer any one of the following:-

8-a.	Explain the following:[CO5, K2] (i) API Testing Tools(ii)Security Testing in testing Tools.	10
8-b.	Analyze the benefits and limitations of using open-source tools.[CO5, K4]	10