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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 (2024 - 2025)

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. UML is used for (CO1,K1)

1

- (a) design
- (b) testing
- (c) implementation
- (d) None of the above

1-b. In which phase of the Software Development Life Cycle (SDLC) does testing begin?(CO1,K1)

1

- (a) Requirement analysis phase
- (b) Design phase
- (c) Coding phase
- (d) Testing phase

1-c. In which environment we can performed the Beta testing?(CO2,K5)

1

- (a) User's end
- (b) Developer's end
- (c) User's and developer's end
- (d) None of the above

1-d. Agile software development is based on which of the following type (CO2,K5)

1

- (a) iterative development
- (b) incremental development

- (c) iterative and incremental development
- (d) None of the above
- 1-e. Which are benefits of static testing? (CO3,K3) 1
- (a) Early feedback of a quality
- (b) Less rework cost
- (c) Increased developmental productivity
- (d) All of the above
- 1-f. Entry criteria is determined during which phase? (CO3,K3) 1
- (a) Planning
- (b) Kick off
- (c) Preparation
- (d) Review meeting
- 1-g. Boundary value analysis belong to? (CO4,K4) 1
- (a) White Box Testing
- (b) Black box testing
- (c) White Box & Black Box Testing
- (d) None of the mentioned
- 1-h. Which of the following is White box testing technique? (CO4,K4) 1
- (a) equivalence partitioning
- (b) Boundary value analysis
- (c) statement coverage
- (d) None of the mentioned
- 1-i. The purpose of a test closure report is to: (CO5,K5) 1
- (a) Document test execution results
- (b) Track defects
- (c) Identify test risks
- (d) Summarize the testing activities and results
- 1-j. Test management tools are used to: (CO5,K5) 1
- (a) Execute test cases
- (b) Track defects
- (c) Analyze test results
- (d) Support test planning and control activities
2. Attempt all parts:-
- 2.a. Explain why testing is necessary? (CO1,K1) 2
- 2.b. Differentiate between Integration Testing and System Testing. (CO2,K5) 2
- 2.c. Describe the Characteristics of Dynamic Testing. (CO3,K3) 2
- 2.d. Explain Decision Table Testing. (CO4,K4) 2

2.e.	Describe the factors that affecting the Test Effort in Software Testing. (CO5,K5)	2
<b>SECTION-B</b>		30
3. Answer any <u>five</u> of the following:-		
3-a.	Explain the importance of software testing. (CO1,K1)	6
3-b.	Write test case on Registration Page. (CO1,K1)	6
3-c.	Explain the following: (i) Why Unit testing is important? Explain the concept of unit testing in detail.(ii) Justify the importance of testing process. (CO2,K5)	6
3-d.	Define software testing. Explain various level of testing. (CO2,K5)	6
3.e.	Explain Different Individual Review Techniques. (CO3,K3)	6
3.f.	Explain state and branch coverage testing with an example. (CO4,K4)	6
3.g.	Describe the Specialized positions in Test Organization. (CO5,K5)	6
<b>SECTION-C</b>		50
4. Answer any <u>one</u> of the following:-		
4-a.	What is the role of performance testing in software development? (CO1,K1)	10
4-b.	What is the difference between smoke testing and sanity testing? (CO1,K1)	10
5. Answer any <u>one</u> of the following:-		
5-a.	Define the following: (i) System testing (ii) Acceptance Testing (iii) Functional Testing (CO2,K5)	10
5-b.	Explain the concept of stress testing and how it helps ensure system stability. (CO2,K5)	10
6. Answer any <u>one</u> of the following:-		
6-a.	What is a test script, and how is it used in automated testing? (CO3,K3)	10
6-b.	What are the advantages and disadvantages of automated testing over manual testing? (CO3,K3)	10
7. Answer any <u>one</u> of the following:-		
7-a.	Expalain benefits of Checklist-based testing techniques with an example. (CO4,K4)	10
7-b.	What is data-driven testing, and when should it be used? (CO4,K4)	10
8. Answer any <u>one</u> of the following:-		
8-a.	What is equivalence partitioning, and how does it help reduce test cases? (CO5,K5)	10
8-b.	What is exploratory testing, and how is it different from scripted testing? (CO5,K5)	10