

Q.5

Attempt any two:

- Which documents are covered by documentation testing? In what three ways does good documentation contribute to the product's overall quality?
- What is threat modeling? Explain the role of buffer overrun/ overflow in security.
- Explain the process of web page testing using black box techniques. What specific elements are typically tested?

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2*Total No. of Questions: 6**Total No. of Printed Pages: 4***Enrollment No.....**

**Faculty of Science / Engineering**  
**End Sem Examination Dec 2024**  
**CA3SE07 Software Testing**

Programme: BCA / BCA-  
 MCA (Integrated)

Branch/Specialisation: Computer  
 Application

Q.6

Attempt any two:

- What do you mean by severity and priority of a bug? Explain the bug's life cycle with suitable diagram.
- What are the key stages involved in bug life cycle? How does automated bug tracking system helps in tracking bugs?
- Explain the role of test design specification, test cases Specification and test procedures specification.

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**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- | Marks | BL   | PO                      | CO | PSO     |
|-------|--|-------------------------|----|---------|
| Q.1   | 1  | 1                       | 1  | 1,<br>2 |
| i.    | In JUnit which of the following assertions is used to check if two values are equal?   |                         |    |         |
|       | (a) assertTrue()   | (b) assertNull()        |    |         |
|       | (c) assertEquals()   | (d) assertSame()        |    |         |
| ii.   | Which of the following testing techniques ensures that the software product runs correctly after the changes during maintenance? |                         |    |         |
|       | (a) Path testing   | (b) Integration testing |    |         |
|       | (c) Unit testing   | (d) Regression testing  |    |         |
| iii.  | Which one of the following is a measure of the testing difficulty of a program?  |                         |    |         |
|       | (a) Number of statements in the program  |                         |    |         |
|       | (b) Number of decision statements in the program   |                         |    |         |
|       | (c) Complexity of the arithmetic expressions used in the program   |                         |    |         |
|       | (d) Time complexity of the program   |                         |    |         |
| iv.   | If variable assigned the incorrect length, type, and storage class' this belong to which type of error-                          |                         |    |         |
|       | (a) Data reference errors  |                         |    |         |
|       | (b) Data declaration errors  |                         |    |         |
|       | (c) Computation errors   |                         |    |         |
|       | (d) Comparison errors  |                         |    |         |

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- v. What is backward compatibility?
  - (a) Ensuring newer version of software can run on new hardware
  - (b) The ability of software to work with older versions of itself.
  - (c) Ensure the ability of software to share data
  - (d) None of these
- vi. Which testing is also known as interaction testing?
  - (a) Configuration testing
  - (b) Compatibility testing
  - (c) Unit testing
  - (d) Configuration testing and compatibility testing both
- vii. During documentation testing, which type of software documentation is not considered?
  - (a) Packaging text and graphics
  - (b) Marketing material, ads, and other inserts
  - (c) Software Requirements Specification (SRS)
  - (d) Warranty/registration
- viii. Website's hit counter is checked in-
  - (a) White box testing
  - (b) Grey box testing
  - (c) Black box testing
  - (d) Performance testing
- ix. Deferred status in bug life cycle means:
  - (a) Developer feels that the bug is not genuine?
  - (b) Bug is repeated twice or the two bugs mention the same concept of the bug
  - (c) The bug is expected to be fixed in next releases
  - (d) The bug is fixed
- x. Priority is defined as-
  - (a) The seriousness of the defect on the product functionality
  - (b) The level of impact that bug has on the functionality of application/system
  - (c) The order in which a defect should be fixed
  - (d) The type of test the team prefers to carry out

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**1      2      1      1,  
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- Q.2      Attempt any two:
- i. What is the utility of dynamic black-box testing? Differentiate between equivalence class partitioning and boundary value analysis with example and diagram.
  - ii. What is JUnit? What are the advantages of using JUnit over manual testing? What are assertions in JUnit and how are they used?
  - iii. Differentiate the following in context of software testing:
    - (a) Verification and validation
    - (b) Data testing and state testing
- Q.3      Attempt any two:
- i. How static white-box testing is different from dynamic white-box testing? Compare peer reviews, walkthroughs and inspections.
  - ii. Draw and explain the subsumption hierarchy of coverage-based testing.
  - iii. What are various coding standards and guidelines? What things are covered by generic code review checklist?
- Q.4      Attempt any two:
- i. At which level configuration testing is applied? Explain the step-by-step approach for configuration testing.
  - ii. What do you mean by data sharing compatibility? Explain any three examples of data sharing compatibility.
  - iii. Explain important traits that make a good user interface. What role does accessibility testing play in user interface testing, particularly for users with disabilities?

### Marking Scheme

#### CA3SE07 (T) Software Testing (T)

		<b>Marks</b>				
Q.1	i) In JUnit which of the following assertions is used to check if two values are equal?  <b>(c) assertEquals()</b>	1		i. Difference Compare	- 2 Marks <b>5</b>	
	ii) <b>(d) Regression Testing</b>	1		ii. Draw Explain	- 3 Marks <b>5</b>	
	iii) <b>(b) Number of decision statements in the program</b>	1		iii. Definition Generic Code Review Checklist	- 2 Marks <b>5</b>	
	iv) <b>(b) Data Declaration Errors</b>	1			- 3 Marks	
	v) What is backward compatibility?  <b>(a) The ability of software to work with older versions of itself.</b>	1			- 2 Marks <b>5</b>	
	vi) Which testing is also known as interaction testing?  <b>(d) configuration testing and compatibility testing both</b>	1		i. At which level Steps	- 4 Marks <b>5</b>	
	vii) During Documentation Testing, Which type of Software Documentation is not considered  <b>(c) Software Requirements Specification (SRS)</b>	1		ii. Definition three example	- 2 Marks <b>5</b>	
	viii) Website's hit counter is checked in  <b>(c) Black box Testing</b>	1		iii. Three important traits Role	- 3 Marks <b>5</b>	
	ix) Deferred status in bug life cycle means:  <b>(c) The bug is expected to be fixed in next releases</b>	1			- 2.5 Marks <b>5</b>	
	x) Priority is defined as  <b>(c) The order in which a defect should be fixed.</b>	1			- 2.5 Marks	
Q.2	Attempt any two:  i. Utility - 1 Marks Difference - 4 Marks	5		i. Which Documents Three ways	- 2.5 Marks <b>5</b>	
	ii. Junit - 1 Marks Advantages - 2 Marks Assertions in JUnit - 2 Marks	5		ii. What is Threat Modeling Buffer Overrun/ Overflow	- 2.5 Marks <b>5</b>	
	iii. V&V - 2.5 Marks error, fault and failure - 2.5 Marks	5		iii. Process - 2 Marks Elements - 3 Marks	- 2 Marks <b>5</b>	
Q.3	Attempt any two:			Q.6	Attempt any two:  i. Severity and Priority Bug's life cycle	- 2 Marks <b>5</b>
					ii. What are the key Stages Automated Bug Tracking System	- 3 Marks <b>5</b>
					iii. Test Design Specification Test Cases Specification and Test Procedures Specification.	- 2.5 Marks <b>5</b>
						- 2.5 Marks
						- 2 Marks <b>5</b>
						- 2 Marks <b>5</b>
						- 2 Marks <b>5</b>
						- 1 Marks
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