

**THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. (IT) DEGREE PROGRAMME 2024/2025
LEVEL 04
ITU4200 – SOFTWARE VALIDATION & ASSURANCE
FINAL EXAMINATION
DURATION: TWO HOURS ONLY (2 HOURS)**



Date: 11.11.2025

Time: 9:30 am –11:30am

1. This question paper consists of **06** questions on **04** pages.
 2. Answer any **04** questions only. All questions carry equal marks.
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Q1.

- i. Why is Software Quality Assurance important for successful software development?
(Marks 05)
- ii. What is the main difference between “software testing” and “Software Quality Assurance”?
(Marks 05)
- iii. Software quality assurance is a continuous process that ensures a software product meets quality standards throughout its development lifecycle. Briefly explain the process of Software Quality Assurance.
(Marks 07)
- iv. Verification and Validation is the process of investigating whether a software system satisfies specifications and standards and fulfils the required purpose. Discuss the differences of these two concepts.
(Marks 08)

Q2.

- i. Compare the differences between “Functional Testing” and “Non-functional Testing”.
(Marks 05)
- ii. Imagine you are a member of SQA (software quality assurance) group. Name four (04) SQA activities you are going to perform there.
(Marks 05)
- iii. “Automation Testing” is not for all test cases”. Do you agree or disagree? Justify your answer.
(Marks 07)

- iv. A startup has been doing only manual testing for their e-commerce platform. They're experiencing delays in releases and testing is taking too long. Should they switch to automation? Analyze the situation and provide recommendations. (Marks 08)

Q3.

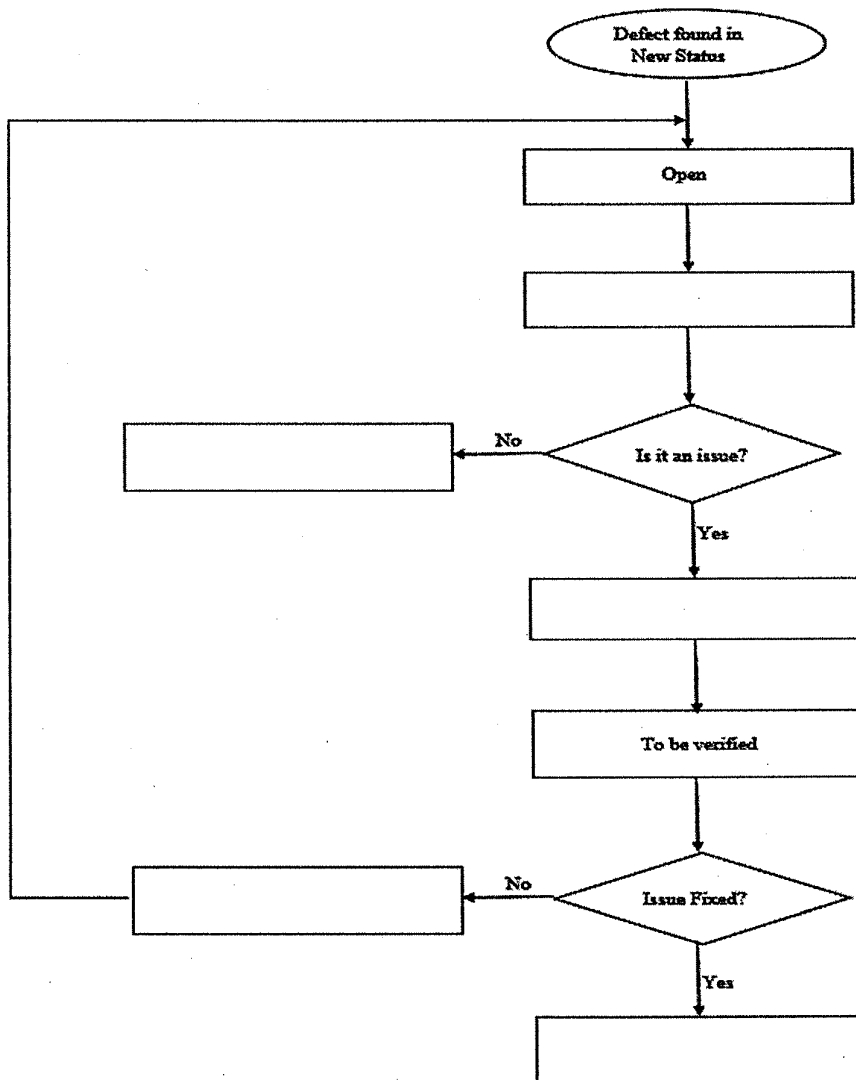
- i. Briefly explain the following terms. "Error", "Defect", "Failure". (Marks 06)
- ii. "Syntax errors" and "Logic errors" are commonly found in software testing. Simply explain these two (02) types of errors (Marks 06)
- iii. Briefly explain the term "Inspection" and Name four (04) characteristics. (Marks 05)
- iv. Code reviews catch bugs, ensure code quality, promote knowledge sharing, and maintain consistent standards across development teams. Briefly explain the best practices in code review. (Marks 08)

Q4.

- i. How the "Beta testing" is differ from "User acceptance testing"? (Marks 05)
- ii. Briefly explain why defect tracking is necessary in software quality assurance. (Marks 10)
- iii. In a software development project, what are the key responsibilities of testers during the different phases of the Software Development Life Cycle (SDLC)? (Marks 10)

Q5.

- i. Fill in the empty boxes in the following diagram. (Marks 10)



- ii. Define and compare the terms “testing” and “debugging”. (Marks 07)
- iii. Software Quality Assurance and Software Quality Control are two different concepts. Compare the differences in these two concepts. (Marks 08)

Q6.

- i. An e-commerce website allows customers to add items to the shopping cart. The system should display a confirmation message when an item is successfully added, and should not allow adding an out-of-stock item.

Write two (02) test cases for this scenario. (Marks 05)

- ii. A mobile banking app allows users to change their account password. The new password must be at least 8 characters long and must include one number and one special character.

Write two (02) test cases for this scenario. (Marks 05)

- iii. An online learning app allows students to submit assignments before the deadline. If a student tries to submit after the deadline, the system should not accept it.

Write two (02) test cases for this scenario. (Marks 05)

- iv. Documentation plays a crucial role in ensuring quality and process control. Name four (04) types of documents and explain the benefits associated with documentation. (Marks 10)

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