THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. in IT DEGREE PROGRAMME 2026/2027
FINAL EXAMINATION
ITU5301: SOFTWARE QUALITY ASSURANCE
DURATION: **TWO HOURS ONLY (2 HOURS)**

Date: 20 June 2026 **Time: 1.30 pm – 3.30 pm**

1. Answer any **04** questions only.

2. Clearly state your index number in your answer script.

Question 01

I. What role does Software Quality Assurance play in software projects? (05Marks)

II. What is the importance of "Software testing"? (05 Marks)

III. Discuss four (04) differences between "Verification" and "Validation". (07 Marks)

IV. Compare and contrast "Black box testing" and "White box testing". Provide examples for each test type. (08 Marks)

Question 02

A bug is essentially a defect or deviation in a program's code that leads to incorrect or unexpected behavior.

I. Explain the following terms. "Error", "Fault" and "Defect". (05 Marks)

II. What is the importance of "Defect Severity" and "Defect Priority" in software quality assurance? (10 Marks)

III. Explain how "Testing" and "Debugging" help detect and resolve software bugs. (10 Marks)

Question 03

Scenario: You are testing a mobile banking application's money transfer feature. Users can transfer money to other accounts by entering the recipient's account number, selecting the transfer amount, choosing from three transfer types (Immediate, Scheduled, Recurring), and confirming with their 4-digit PIN. The system has the following business rules:

- The minimum transfer amount is 100 LKR.
- The maximum is 100,000 LKR per transaction.
- Daily limit is 200,000 LKR, and users cannot transfer to their own account.

I. Write three (03) test cases to validate the transfer amount limitations and business rules? (10 Marks)

II. Write five (05) test cases to validate the PIN authentication and security aspects in this mobile banking application. (15Marks)

Question 04

Test automation relies on specialized software tools and frameworks to automate test execution and result verification.

I. What is "Automated testing"? (05 Marks)

II. How do manual testing and automation testing differ from each other? (05 Marks)

III. Project automation presents significant challenges and comes with numerous constraints and restrictions. What are the limitations of Automating a Project? (07 Marks)

IV. "Not every test case is suitable for automation" Are you agree with this statement? Justify your answer by providing an example of your choice. (08 Marks)

Question 05

I. What are software metrics and name the three (03) main categories of software metrics. (05 Marks)

II. Name and describe the two (02) types of software risks. (05 Marks)

III. There are three (03) categories of costs associated with producing quality products. Name them and describe. (07 Marks)

IV. Walkthrough and Inspections are formal manual techniques. Discuss the differences between these two techniques. (08 Marks)

Question 06

I. Explain four (04) differences between Quality Assurance and Quality Control. (05 Marks)

II. Software testing faces numerous challenges. Mention five (05) challenges. (05 Marks)

III. "Too much testing is a crime; Too little testing is a sin" What is your point of view on this statement? (07 Marks)

IV. "Misunderstanding the testing life cycle directly impacts software testing." Do you agree with this statement? Justify your answer. (08 Marks)

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