THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. DEGREE PROGRAMME 2024/2025
FINAL EXAMINATION
CSU5301: SOFTWARE QUALITY ASSURANCE
DURATION: **TWO HOURS ONLY (2 HOURS)**

Date: 19 May 2025 **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. Briefly explain the term "Software quality Assurance" (05 Marks)

II. What are the importances of "Software testing"? (05 Marks)

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

IV. Compare and contrast "Functional testing" and "Non-Functional testing". (08 Marks)

Question 02

Bugs arise from human error at various stages of the software development life cycle, including design, coding, and tool usage.

I. What is a defect/Bug? Explain the purpose of reporting defects? (05 Marks)

II. What are the differences between "Testing" and "Debugging"? (05 Marks)

III. Define the terms "Defect Severity" and "Defect Priority". (05 Marks)

IV. Identify five (05) common problems in software development process that impact software quality. Propose suitable solutions. (10 Marks)

Question 03

Develop test cases to test the functionality given below. (25 Marks)

Note – You should include the essential elements of the test case in your test case document. Below is a UI sketch of a grading system developed for the learning management system of a School.

Element Type	UI element type	Properties
Label	Marks	Read Only
Text Box	Marks	Editable
Label	Grade	Read only
Text Box	Grade	Read Only
Button	Calculate	N/A
Button	Clear	N/A

Business logics

1. If user selects 'Calculate' button without entering anything in marks field – Application should prompt an error message, 'Please enter any values for marks.'

2. If user enters a non – numeric value (including integer and decimals) – Application should prompt an error message: 'Please enter correct values for marks.'

3. If user enters marks are outside 0-100 then Application should prompt an error message: 'Invalid mark values. "Please enter again."

4. If user enters marks >= 75, Application should display the grade as A.

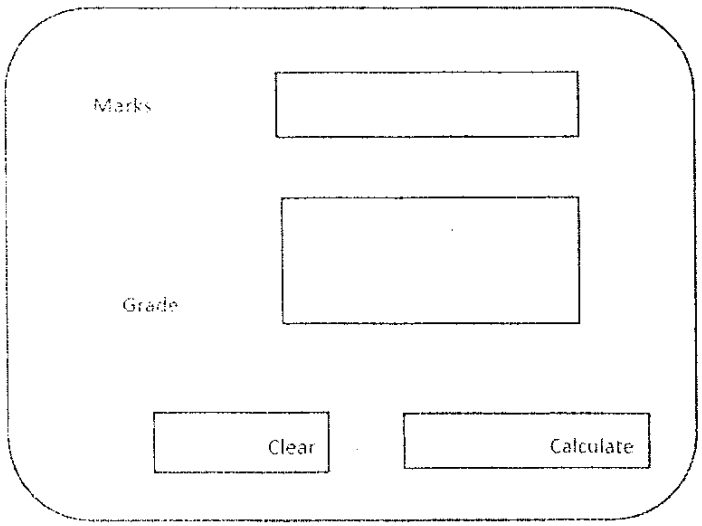
5. If user enters marks >= 55 and marks < 74, Application should display the grade as B.

6. If user enters marks >= 45 and marks < 54, Application should display the grade as C.

7. If user enters marks >= 30 and marks < 44, Application should display the grade as S.

8. If user enters marks < 29, Application should display the grade as F.

9. If user selects 'Clear' button, Application should clear both marks and grade text boxes.



Question 04

I. Briefly explain what test automation is and why is that important. (05 Marks)

II. Compare and contrast manual testing and Automation testing. (05 Marks)

III. 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. (08 Marks)

Question 05

I. What are 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. Software testing faces numerous challenges. Mention the challenges and explain how to overcome those. (15 Marks)

II. "Too much testing is a crime; Too little testing is a sin" What is your point of view on this statement? (10 Marks)