



KENYATTA UNIVERSITY

**EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER
SCIENCE AND BACHELOR OF SCIENCE IN MATHEMATICS AND COMPUTER**

SCO 203: SOFTWARE TESTING AND QUALITY ASSURANCE

2ND SEMESTER 2023/2024

TIME: 2 HOURS

INSTRUCTIONS:

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a. Describe four instances in which automatic testing might be used (4 marks)
- b. Identify four key items to include in a test case design document (4 marks)
- c. Define acceptance testing and discuss three expected outcomes of acceptance testing from a software developer perspective (6 marks)
- d. Explain three benefits in using integration testing for complex time-critical software development projects (3 marks)
- e. Using specific examples, describe three restrictions of using testing tools (3 marks)
- f. Explain three importance of software quality assurance and state how it is achieved (5 marks)
- g. Describe five measurable aspects of high quality in a software product (5 marks)

QUESTION TWO (20 MARKS)

- a. Giving reasons explain five reasons why software quality assurance standards are important in software development environment (5 marks)
- b. Describe the main elements of ISO 9000-3 (5 marks)

INVOLVEMENT IN ANY EXAMINATION IRREGULARITY SHALL LEAD TO DISCONTINUATION

- c. Discuss four key roles of software tester in a software testing development organization (4 marks)
- d. Using an example in each case describe the following;
 - i. Failure (2 marks)
 - ii. Fault (2 marks)
 - iii. Error (2 marks)

QUESTION THREE (20 MARKS)

- a. Outline three requirement specification of a login page and explain how you will prepare its test cases (6 marks)
- b. Provide a set of quality assurance activities for a new software quality assurance (SQA) manager (6 marks)
- c. Describe four key pitfalls associated with SQA (4 marks)
- d. Explain the process of Bug cycle (4 marks)

QUESTION FOUR (20 MARKS)

- a. Using examples differentiate between verification and validation (5 marks)
- b. Describe four solutions to software failures developers should employ (4 marks)
- c. Discuss three origins of software defects in a software testing environment (6 marks)
- d. Describe how performance and stress testing would be performed for a banking application (5 marks)

QUESTION FIVE (20 MARKS)

- a. Using examples differentiate between testing scenario and test case (4 marks)
- b. Describe the purpose of a test plan for a software validation process (3 marks)
- c. Explain the role of alpha and beta testing in customer acceptance testing (3 marks)
- d. Discuss four challenges of automation testing when used in software testing (4 marks)
- e. Describe the different kinds of software testing performed on a target software (6 marks)