



Machakos University College

(A Constituent College of Kenyatta University)

UNIVERSITY EXAMINATIONS 2013/2014

SCHOOL OF COMPUTING AND APPLIED SCIENCES

SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 203: SOFTWARE TESTING AND QUALITY ASSURANCE

DATE: 4/4/2014

TIME: 2 Hours

Answer Question ONE and any other TWO Questions

Question One (30 Marks)

- a) Explicate the following terminologies:
 - i. Software (2 marks)
 - ii. Quality Assurance (2 marks)
 - iii. Quality Control (2 marks)
- b) Describe the following testing:
 - i. Black Box Testing (2marks)
 - ii. White Box Testing (2 marks)
 - iii. Grey Box Testing (2 marks)
- c) Describe software process model (2 marks)
- d) Explain any **three** types of software models. (6 marks)
- e) Elucidate any **four** attributes of good software (8 marks)
- f) Illustrate any **two** suitable circumstances of using the waterfall model (2 marks)

Question Two (20 Marks)

- a) Describe five characteristics that are desirable in a software design. (10 marks)
- b) With the aid of diagram, describe in details the Boehm's spiral model. (10 marks)

Question Three (20 Marks)

- a) Differentiate between **verification** and **validation** as used in software testing (4 marks)
- b) Give the major differences between **Quality Assurance** and **Quality Control** (8 marks)
- c) With respect to modules, differentiate between **cohesion** and **coupling** (4 marks)
- d) Define Test Automation (2 marks)
- e) Explain non-function software testing (2 marks)

Question Four (20 Marks)

- a) Explain any **five** software security aspects that should be tested (10 marks)
- b) In view of software testing:
 - i. Define software test plan (2 marks)
 - ii. Explain the main components of a test plan (8 marks)

Question Five (20 Marks)

- a) Explain why SQA is important in software development (8 marks)
- b) Explain the following terms (2 marks)
 - i. Milestone
 - ii. Deliverable
- c) Explain the components of ANSI/IEEE standards 730-1984 and 983-1986, software quality assurance plan (10 marks)

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