



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2007/2008

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

SCS 420: SOFTWARE METRICS QUALITY

DATE: THURSDAY, 19TH JUNE 2008

TIME: 11.00 A.M. – 1.00 P.M.

INSTRUCTIONS:

Answer question number ONE and any other TWO questions.

1. (a) Define the following terms.

(i) Software process	(1 mark)
(ii) Process model	(1 mark)
(iii) Rapid Application Development (RAD)	(1 mark)
(iv) Prototyping	(1 mark)
(v) Software documentation	(1 mark)
- (b) Briefly explain Quality Assurance (QA) reporting and monitoring. (6 marks)
- (c) Briefly explain software metrics as indicator or reliability and quality. (9 marks)
- (d) Describe the following

(i) Software process	(1 mark)
(ii) Process model	(1 mark)
(iii) Software metrics	(1 mark)
(iv) Standard	(1 mark)
(v) Software documentation	(1 mark)
2. (a) Briefly explain the generic view of software production process. (5 marks)
- (b) Construct a software process framework with a set of software
 engineering actions and the associated software engineering products.

	(15 marks)
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3.
 - (a) Distinguish between Evolutionary process model and the spiral model. (6 marks)
 - (b) Design a prototyping model for both evolutionary and spiral process models and explain how prototyping paradigm may offer the best approach. (14 marks)

4.
 - (a) Briefly explain software metrics in the project and process domains. (6 marks)
 - (b) Bring out the application of metric common to most software projects giving appropriate guidelines that are applied when collecting software metrics. (14 marks)

5.
 - (a) Briefly explain the software quality management. (5 marks)
 - (b) Assume you work for an organization that develops application software products for microcomputer systems. The organization is interest in quantifying its software development. Write a report suggesting appropriate metrics and how it should be collected in order to be assured of the best quality and performance of the system. (15 marks)