



(Knowledge for Development)

KIBABII UNIVERSITY COLLEGE

**A CONSTITUENT COLLEGE OF
MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

UNIVERSITY EXAMINATIONS

2014/2015 ACADEMIC YEAR

**FOURTH YEAR SECOND SEMESTER
MAIN EXAMINATION**

FOR THE DEGREE OF

BACHELOR OF SCIENCE COMP SCIENCE & BIT

COURSE CODE: BCO 467 E

COURSE TITLE: SOFTWARE METRICS

DATE: 30TH APRIL, 2015

TIME: 3.00PM-5.00PM

INSTRUCTIONS TO CANDIDATES

Answer Question One in Section A and Any other TWO (2) Questions in Section B

TIME: 2 Hours

Instructions to candidates:

This paper consists of FIVE Questions.

Answer Question ONE [30 Marks] and any other TWO Questions [20 Marks Each].

Write your college number on the answer sheet.

This paper consists of 2 printed pages

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

© APRIL 2015 The KIBABII University College Examinations

SECTION A

Question 1: [30 MARKS] Compulsory

- a)
 - i. Define the term software metrics and show with a diagram (4 Marks)
 - ii. Differentiate between direct and indirect metrics give examples (6 Marks)
 - iii. Outline Four Characteristics of software quality (4 Marks)
 - iv. Describe the meaning of the following statement: (2 Marks)
A general defect removal goal is a cumulative defect removal efficiency of 95% for MIS, and 99.9% (or greater) for real-time weapon systems.
- b)
 - i. Describe the TWO scenarios the development team can use to judge the release quality.(6Marks)
 - ii. Describe McCabe's cyclomatic complexity Measure (6 Marks)
 - iii. Describe the term function point count (2 Marks)

SECTION B: Answer any Two Questions from this section

Question 2: [20 Marks]

- a) Explain the Goal based measurement framework with a suitable example (10Marks)
- b) Describe any five methods that are used for data collection during development of a metric(10 Marks)

Question 3: [20 Marks]

- a) Describe the advantages and disadvantages of Source code Line of Code Metrics (4 Marks)
- b) Describe the parametric model of software estimation (4 Marks)
- c) Describe the software requirement metrics use example (12Marks)

Question 4: [20 Marks]

- a) Outline the FOUR key components of an effective measurement process (4Marks)
- b) Explain FOUR resources considered when costing software (8Marks)
- c) Explain any Four limitations and constraints software developer should be aware of when implementing a metrics program (8Marks)

Question 5: [20 Marks]

- a) Outline EIGHT benefits of Bayesian Belief Nets (8Marks)
- b) Give Two examples of data Owned by management, engineers, testers, Configuration Management Specialists and users (10Marks)
- c) Explain the meaning of the following statement (2Marks)
Data collection must be objective and unambiguous