



TECHNICAL UNIVERISTRY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATIONS FOR DEGREE IN:
BACHELOR OF TECHNOLOGY IN INFORMATION COMMUNICATION
TECHNOLOGY

EIT 4407: SOFTWARE ARCHITECTURE

END OF SEMESTER EXAMINATION

SERIES: APRIL 2015

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Attempt question **ONE (Compulsory)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

- a) Explain the various stakeholders in software architecture (6 marks)
- b) Explain the following terms/statements. (2 marks)
- (i) Externally visible properties of components
 - (ii) Software architecture is an abstraction (2 marks)
 - (iii) Architectural structure
 - (iv) Relations
- c) Describe FOUR issues that have contributed to the need to have software architecture (4 marks)

- d) Using an appropriate diagram, explain the repository style by including the components and connectors **(8 marks)**

Question Two

- a) State FOUR examples of repository styles **(4 marks)**
- b) Describe the following concepts in relation to the study of software architecture:
- (i) Layers
 - (ii) Pipes and fitters
 - (iii) Broker
 - (iv) Model view controller (MVC) **(16 marks)**

Question Three

- a) Describe FOUR software architecturing process **(4 marks)**
- b) Define a software architecture pattern **(3 marks)**
- c) Explain FOUR reasons why we need to use architectural patterns **(4 marks)**
- d) Write short notes on early compiler architectures with an appropriate well labeled diagram **(9 marks)**

Question Four

- a) Describe clearly the working of implicit invocation style with an appropriate well labeled diagram **(10 marks)**
- b) (i) State THREE examples of implicit invocation **(3 marks)**
- (ii) State TWO advantages of implicit invocation **(4 marks)**
- c) Outline THREE disadvantages of implicit invocation **(3 marks)**

Question Five

- a) Discuss an architectural conception in absence of experience **(10 marks)**
- b) Explain the existing framework for the pipe and filter architectural style **(10 marks)**