



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR:
BACHELOR OF BUSINESS INFORMATION TECHNOLOGY
(BBIT)

EIT 4210: OBJECT ORIENTED ANALYSIS & DESIGN

END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2013
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** 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) Define the following terms as used in object oriented analysis and design:
- (i) Object oriented analysis and design
 - (ii) An Association class
 - (iii) Aggregation
 - (iv) Composition **(10 marks)**
- b) What is the use of system sequence diagram **(4 marks)**
- c) List the relationships used in class diagram giving examples of each **(6 marks)**
- d) Explain with relevant details the term UML class diagram **(4 marks)**
- e) Define use case generalization **(3 marks)**

f) Defining conceptual super class and subclasses (3 marks)

Question Two

a) Define objects (4 marks)

b) Give a brief notes on object behavior (6 marks)

c) Who do you mean by information hiding (4 marks)

d) What is the logical Architecture (3 marks)

e) What is software architecture (3 marks)

Question Three

a) Define class hierarchy (4 marks)

b) Write briefly about inheritance and explain the types of inheritance (8 marks)

c) What do you mean by polymorphism (4 marks)

d) Explain briefly the waterfall approach. (4 marks)

Question Four

a) Define modeling (2 marks)

b) Briefly explain the main principles of modeling (8 marks)

c) A small library database system has been planned to be developed. The small library database system will be used by the Biology Department of a local college to track the borrowing of books and other forms of media, such as video tapes and software
A Secretary will operate the system and will be responsible for checking out books to students and faculty members. Identify all classes for this system. (10 marks)

Question Five

a) Define UML (3 marks)

b) Consider a software process consisting of the following activities: requirements, gathering object oriented analysis, object oriented design implementation and deployment.

Explain the UML diagram that are essential for each activity. (8 marks)

c) Suppose we wish to model an application for registering students in a University academic semester. (9 marks)

Identify:

(i) Three classes for the model

(ii) At least three attributes for each class