



KENYA METHODIST UNIVERSITY

END OF 1ST TRIMESTER 2010 EXAMINATIONS

FACULTY : **COMPUTING AND INFORMATICS**
DEPARTMENT : **COMPUTER INFORMATION SYSTEMS**
UNIT CODE : **CISY 411**
UNIT TITLE : **OBJECT ORIENTED ANALYSIS AND DESIGN**
TIME : **2 HOURS**

Instructions:

- Answer all questions in section A and any 2 in section B.

SECTION A (30 MARKS)

Question 1

- Define the following terms;
 - Iterative design
 - Object
 - Stakeholder (3 mks)
- Name and describe the three object oriented principles. (3 mks)
- The traditional lifecycle has been used for several years but is subject to several criticisms. Briefly describe four of these criticisms. (4 mks)
- With the aid of diagrams, describe the three main types of relationships. (6 mks)
- Collecting requirements is not an easy task because of several reasons. Outline four of these reasons. (4 mks)
- Name and describe the two main types of requirements. (4 mks)
- Name any three commercial UML tools. (3 mks)
- What is the importance of a sequence diagram? (3 mks)

SECTION B (30 MARKS)

Question 2 (15 marks)

- Outline four criticism of the object oriented approach. (4 mks)
- Describe some problems in information systems development from the client's perspective. (5 mks)
- State two importance of finding the correct requirements. (2 mks)
- Describe in your own words the difference between <<extend>> and <<include>> relationships in use case diagrams. (4 mks)

Question 3 (15 marks)

- i) Why are use cases not a good tool for finding classes (8 mks)
- ii) Attributes in classes can have different visibilities. Using diagrammatic examples, explain these visibilities. (6 mks)
- iii) What are the reasons for using object oriented design phase instead of moving directly from analysis to implementation? (3 mks)

Question 4 (15 marks)

- i) Using examples differentiate between composition and aggregation. (6 mks)
- ii) Define multiplicity. (1 mk)
- iii) Every student at KeMU can be a member of none or many clubs. Each club must have at least one student as a member, besides the club officials. Each club must have at least three club officials and just one chairperson. Each club official can be an official to any other club(s). Draw a class diagram showing at least one attribute for each class. (8 mks)