



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY
DIPLOMA IN INFORMATION COMMUNICAITON TECHNOLOGY
(DICT 12S)

EIT 2205: OBJECT ORIENTED SYSTEMS ANALYSIS & DESIGN

END OF SEMESTER EXAMINATION

SERIES: APRIL 2014

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 **THREE** printed pages

Question One (Compulsory)

- a) Define the following object oriented concepts: **(6 marks)**
(i) Object
(ii) Attribute
(iii) Class
- b) Name any TWO UML diagrams used for each of the following: **(4 marks)**
(i) Modeling behavior of an object
(ii) Interaction between groups of objects
- c) Explain why you would opt for object oriented development to the traditional development methodologies. **(4 marks)**
- d) State the purpose of each of the following: **(6 marks)**
(i) Use case diagrams
(ii) Class diagrams
(iii) Sequence diagrams

Question Two

- a) Explain any THREE benefits of object oriented analysis. **(6 marks)**
- b) Create a class hierarchy to organize the following **drink** classes: **(4 marks)**
Alcoholic, non alcoholic, grape juice, mineral water, lemonade
- c) State any FOUR tools for information extraction. **(4 marks)**
- d) Explain the following terms: **(6 marks)**
(i) Inheritance
(ii) Encapsulation
(iii) Polymorphism

Question Three

- a) State FOUR advantages of object oriented development. **(4 marks)**
- b) Explain any FOUR characteristics of object oriented systems. **(8 marks)**
- c) Explain the concept of superclass and subclass hierarchy. **(4 marks)**
- d) For the schema employee (emp_id, emp_name, street, city), show the class representation along with the attribute types. **(4 marks)**

Question Four

- a) List any SIX graphical diagrams defined by UML. **(6 marks)**
- b) Briefly explain the object oriented design process in the unified approach and apply the same for a railway reservation system. **(14 marks)**

Question Five

- a) Discuss the advantages and disadvantages of waterfall model. **(8 marks)**
- b) (i) Explain the importance of reusability **(4 marks)**
(ii) How does object oriented software development promote reusability? **(2 marks)**
- c) Differentiate private, public and protected protocols. **(6 marks)**