MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

FIRST YEAR **SECOND** SEMESTER EXAMINATION FOR DIPLOMA IN INFORMATION TECHNOLOGY

SCS 051- OBJECT ORIENTED ANALYSIS AND DESIGN

DURATION: 2 HOURS

DATE: 15/4/2019

TIME: 9-11 A.M.

Instructions to candidates:

1. Answer question One and Any Other Two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

(a) Explain the areas where robustness diagram can be applied. (4marks)

(b) With the aid of an example; explain three characteristics of an object. (6marks)

(c) Faith, an IT student at MUT has been assigned a task to develop a system. Explain six attributes that you can use to check if the system she will develop is successful. (6marks)

(d) Using a diagram, explain the reason why activation boxes are used in UML sequence diagram. (4marks)

(e) Object oriented languages use various access specifics. State them and explain how they are used. (6marks)

(f) State the difference between sequence and collaboration diagram. (4marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

(a) Using an example, explain inheritance as a feature of object oriented programming language. (3marks)

(b) Object-oriented language is made up of four main principles. State and explain them. (4marks)

(c) Differentiate between boundary object, entity and controller as uses in robustness diagram. (3marks)

(d) Use a diagram to explain the five symbols of robustness diagram. (10marks)

QUESTION THREE (20 MARKS)

(a) Define UML and explain four reasons why it is important to use UML diagram. (5marks)

(b) With the aid of a diagram, explain three symbols used in state chart diagram. (5marks)

(c) With the aid of a real life scenario draw and explain a use-case diagram. (10marks)

QUESTION FOUR (20 MARKS)

(a) Explain various factors to consider when selecting a software development model.

(4marks)

(b) Define object oriented analysis and explain various steps involved in object oriented analysis.　　　　　　　　　　　　　　　　　　　　　　(8marks)

(c) Compare and contrast object oriented model with procedure oriented model. (8marks)