



MURANGA UNIVERSITY COLLEGE

(A constituent College of Jomo Kenyatta University of Agriculture & Technology)

MAIN CAMPUS

SUPPLEMENTARY UNIVERSITY EXAMINATIONS

2014/2015 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER AND FIRST YEAR FIRST SEMESTER

**FOR THE DEGREES
OF**

- 1. BACHELOR OF SCIENCE MATHEMATICS COMPUTER,**
- 2. BACHELOR OF SCIENCE INFORMATION TECHNOLOGY, AND**
- 3. BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

COURSE CODE: ICS2210

COURSE TITLE: SYSTEMS ANALYSIS AND DESIGN

DATE: 6TH AUGUST 2015

TIME: 9.00-11.00AM

INSTRUCTIONS TO CANDIDATES

Question ONE (1) is compulsory
Answer THREE (3) questions

MRUC observes ZERO tolerance to examination irregularities

This Paper Consists of 2 Printed Pages. Please Turn Over. ►

QUESTION ONE

ai) A country bus company owns a number of buses. Each bus is allocated to a particular route, although some routes may have several buses. Each route has a number of stages. Each stage goes through some of the towns. One or more drivers are allocated to each stage. Draw an entity model to show the corresponding entities and relationships. 10 marks

ii) Further analysis has revealed that some of the towns have a garage where buses are kept and each of the buses has one 'home' garage. Extend your entity model to include this new information. 4marks

b) Outline factors that guide a systems designer when designing the user interface for a particular application. 8 marks

c) Most computerized systems spend enormous budget during the maintenance phase. Describe causes of system maintenance in context of systems analysis and design. 8 marks

QUESTION TWO

a) Justify the need of system documentation in context of systems analysis and design. 6 marks

b) XYZ company has preferred customers who orders goods more than 1000 KES and are therefore entitled to 5% discount and an additional 5% discount if they use the company visa card. Preferred customers who do not order more than 1000 KES receive 250 KES bonus coupon. All other customers receive 50 KES bonus coupon. Draw a decision tree from the scenario. 8 marks

c) Outline the factors to be considered while carrying out an input design. 6 marks

QUESTION THREE

a) A student who passes the examination and completes the course work and project satisfactory is awarded a pass. If the course work and the project are unsatisfactory, the student is asked to resubmit the unsatisfactory work, as long as the exam has been passed. A student who fails the examination is deemed to have failed the whole course unless both the course work and the project are satisfactory, in which case the student is allowed to re-sit the examinations. Generate a decision table of the scenario. 10 marks

b) Data collection is an important activity in system analysis. Describe 3 data collecting tools which may be used while analyzing a new system. 6 marks

c) Clearly differentiate the logical design from the physical design of an information system. 4marks

QUESTION FOUR

- a) Explain the concepts of Cardinality and Modality in the context of Entity Relationship (ER) Diagram.
Use a relevant example in case. 8marks
- bi) Define the term feasibility study 2 marks
- ii) A student would like to carry out a feasibility study for a semester project. Outline four aspects that the study should address. 4 marks
- iii) Explain the appropriateness of economic and behavioral feasibilities. 6 marks