



MURANGA UNIVERSITY COLLEGE

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

MAIN CAMPUS

ORDINARY UNIVERSITY EXAMINATIONS

2015/2016 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER

**FOR THE DEGREE
OF
BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

COURSE CODE: ICS2210

COURSE TITLE: SYSTEMS ANALYSIS AND DESIGN

DATE: 21st April 2016

TIME: 2 hours

INSTRUCTIONS TO CANDIDATES

Question ONE (1) is compulsory
Answer TWO(2) other questions

MRUC observes ZERO tolerance to examination irregularities

This Paper Consists of 6 Printed Pages. Please Turn Over. ►

QUESTION ONE

- a) With an example for each, differentiate the following terms as used in entity modeling. 10 marks
- i) Entity
 - ii) Relationship
 - iii) Attribute
 - iv) Foreign key
 - v) Primary key
- b) Describe 4 challenges encountered by a Systems Analyst. 4 marks
- c) Use the following Unnormalized data of an invoice to prepare the First Normal Form (1NF) of the data. 4 marks
- An Invoice
Unnormalized Data
INVOICE (Invoice No, Date, Cust Address, Del Address,
(Prod Code, Prod Desc, Qty, Unit Price, Amount), Inv Total)
- d) Outline the areas to be considered while designing an information system. 8 marks
- e) Differentiate the terms physical and logical models of a systems. 4 marks

QUESTION TWO

- ai) Briefly describe the stages involved in a systems development cycle, starting with the original identification of the problem by management and ending with a report back on (or otherwise) implementation. 6 marks
- ii) Define structured methods used in systems analysis and design. 2 marks
- b) Describe the qualities of a good problem statement. 6 marks
- c) As a systems analyst, you have been approached to computerize a college students' admission system that is having problems maintaining records of students' details, courses, etc. Produce a suitable hypothetical problem statement for the above situation. 6 marks

QUESTION THREE

- a) Consider for example the discount policy of a Saree manufacturer for his customers. According to the policy the Saree manufacturer give discount to his customers based on the type of customer and size of their order. For the individual, only if the order size is 12 or more, the manufacturer gives a discount of 50% and for less than 12 Sarees the discount is 30%. Whereas in case of shopkeeper or retailers, the discount policy is different. If the order is less than 12 then there is 15% discount. For 13

to 48 Sarees order, the discount is 30%, for 49 to 84 Sarees 40% and for more than 85 Sarees the discount is 50%. Draw a decision tree of the scenario. [8 marks]

bi) Define the feasibility study in system analysis. [2 marks]

ii) Discuss the following types of feasibility: [6 marks]

- I. Economic feasibility
- II. Technical feasibility
- III. Operational feasibility

c) Describe the stages of the structured system analysis. [4 marks]

QUESTION FOUR

a) Identify and explain three main components of a feasibility study report. [9 marks]

b) A purchasing department receives a purchase requisition from the stores. The requisition is checked, and an invalid requisition is returned to the stores for correction. An order is made out using a file of approved suppliers and sent to the appropriate supplier. A copy order is filed. The requisition is filed. When the goods are received, the invoice is compared with the filed order copy and an invalid invoice is returned to the supplier. Valid invoices are passed to the accounts department for payment and fulfilled orders are filed. Draw a level one DFD for the above scenario. [8 marks]

c) Explain 3 reasons why it's not possible to automate some information processing systems. [3 marks]