



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2015 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

REGULAR PROGRAMME

CMT 411: DECISION SUPPORT SYSTEMS

Date: APRIL 2015	Duration: 2 Hours
Instructions: Answer Question ONE and any other TWO Questions.	

- Q1. a) Explain the following KEY concepts in DSS:
- i) Decision support systems **(1 mark)**
 - ii) Drill-down features and data mining **(2 mark)**
 - iii) Business Process **(1 mark)**
 - iv) System **(1 mark)**
 - v) Business intelligence **(1 mark)**
- b) With the aid of an illustrated diagram, briefly describe the Decision Support Systems (DSS) architecture. Outline FIVE benefits of using DSS in organizations. **(10 marks)**
- c) Business managers are challenged in making decisions for their institutions. There are various tools that they can use to make decisions. One of those tools is a decision table. A decision table may accompany a flowchart, defining the possible contingencies that may be considered within the program and appropriate course of action for each contingency.
- i) As a student of this course identify and briefly describe FOUR parts of a decision table. **(4 marks)**
 - ii) A wholesaler has three commodities to sell and has three types of customers. The discount is given as per following table. Using skills learnt in this course, draw a limited entry decision table for the wholesaler and state the decision he has made. **(10 marks)**

1. For Govt, orders, 15% discount is given irrespective of the value of the order.
2. For orders of more than 20,000/= an agent gets a discount of 20% and the retailer. 15% respectively.
3. For order of value, between Ksh.10,000 and Kshs.20,000 agent gets discount of 15% and the retailer gets 10%.
4. For orders of value less than Kshs.10,000 the agent and retailer get discount 10% and 5% respectively.
5. The above miles do not apply to furniture items. However, in case of furniture items a flat rate of 10% discount is admissible to all types of customers.

- Q2. a) You are a manager of Zyco Ltd. a company in the service industry. List and briefly describe the FIVE basic methods that you would use to determine your information needs. **(5 marks)**
- b) Outline the THREE key roles of an executive director and discuss how a ASS would help in achieving these roles. **(6 marks)**
- c) Microsoft excel is one of the automated tools that a manager may use to make decisions quickly for an organization. Identify and briefly describe any THREE of these tools. **(6 marks)**
- d) State any THREE values of an enterprise system such as a decision support system. **(3 marks)**
- Q3. a) Herbert A-Simon, a well known economist and Scholar of management information systems who divided the managerial decision making process into three activity steps. Identify the THREE steps in decision making process and indicate the role information systems play in each step. **(6 marks)**
- b) When making non-routine decisions, a manager maybe supported by a data driven DSS. Describe and comment on the usefulness of the following two tools provided by a DSS.
- i) Data warehouse **(2 marks)**
 - ii) OLAP (Online Analytical Processing) **(2 marks)**
- c) One of the main features of Decision support systems include drill-down features. Outline in detail how drill down feature operates and list how it may benefit an organization using a relevant example to support your answer. **(3 marks)**
- d) Identify TWO most common information systems security threats organizations face today. Outline solutions to these problems. **(4 marks)**

- Q4. a) In a board meeting you have been asked to defend the adoption of decision support system. As a system analyst in Company XYZ, explain THREE internal and TWO external factors that lead to adaption of a DSS. **(5 marks)**
- b) List FIVE dimensions of decisions in an organization that affect both the kinds of decisions and the methods to make them effectively. **(5 marks)**
- c) State FIVE characteristics of a data warehouse. **(5 marks)**
- d) List any FIVE layers of a data warehouse. **(5 marks)**
- Q5. a) Using an illustration sketch, describe any FOUR types of computerized information systems that a company may employ and explain their functions in the organization showing their relationship. **(10 marks)**
- b) In a managers meeting, they have resolved to buy a decision support system (DSS) for the company. However, they require advice from you about the main features they would expect from the DSS they expect to purchase. Identify and briefly describe any five features. **(3 marks)**

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