CHUKA **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COMP 403: DECISION SUPPORT SYSTEMS

STREAM: BSC (COMPUTER SCIENCE Y4S2)
         TIME: 2 HOURS

INSTRUCTIONS:

1. Answer question **ONE** SECTION A and any other **TWO** questions IN SECTION B

2. Marks are awarded for clear and concise answers.

SECTION A

Question One Compulsory (30 marks)

QUESTION ONE [30 marks]
a) Explain three characteristics of a data warehouse   [6 Marks]
b) Outline four S.L. Alters' DSS Implementation Strategies.   [4 marks]

c) Briefly describe with an appropriate illustration the components of Simon's problem-solving model.   [4 Marks]
d) Briefly describe three elements of a typical DSS architecture.   [6 Marks]
e) Explain the purpose of computer aided decision support system.   [2 marks]

f) Briefly describe four classifications of groupware.   [4 Marks]
g) Explain the decision support system concept and how it differs from traditional management information system.   [4 marks]

SECTION B (40 Marks) Choose two Questions

QUESTION TWO [20 marks]

a) Zainabu a first year student at Chuka university is puzzled with the idea of whether computers reason or not, using various knowledge representation tools, examples and your expert knowledge in decision support systems help her clearly understand this concept.
[4 marks]
b) Identify two risk factors in DSS implementation projects.   [2 Marks]
c) Describe the disadvantages associated with the multi-participant decision maker (MDM) approach to decision making   [6 Marks]
d) Decision makers can use decision models, the simplified representation of reality, as a foundation for their analysis and subsequent forecasts and prediction. Briefly describe the unique and identifiable characteristics of any two abstract decision models. [4 Marks]

e) List and briefly describe the two basic components of a DSS.   [4 Marks]

QUESTION THREE [20 marks]

a) Study the figure below and answer the questions that follow
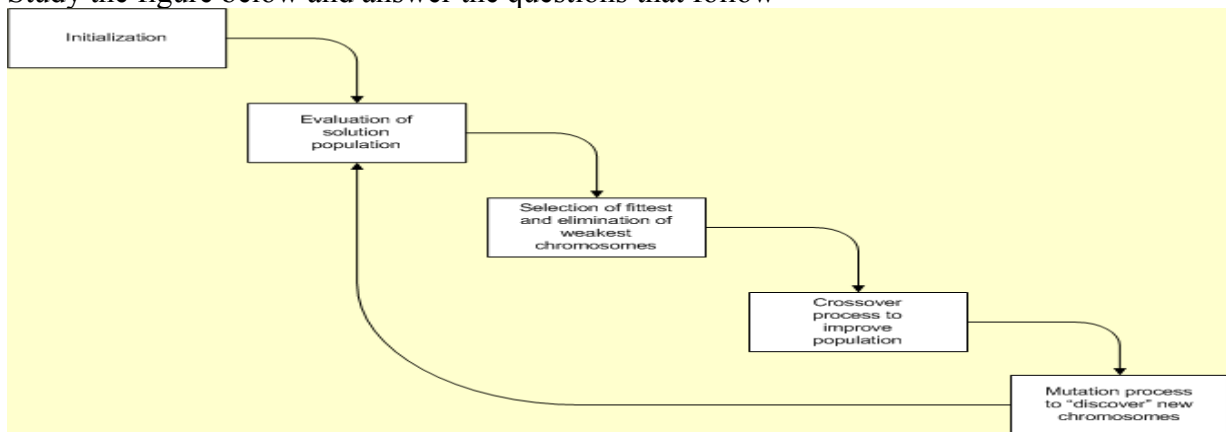
    i.   Name and briefly describe how the algorithm works.   [4 marks]
    ii.   List any two benefits associated with such algorithms.   [2 marks]
b) List and briefly describe four classes of decision makers.   [6 marks]
c) Briefly describe the benefits and limitations of taking the prototyping approach to developing DSS.   [6 marks]
d) Several conditions merge to transform the emerging technologies, predict the future of Executive Decision Making and the Executive Information Systems (EIS).   [4 marks]

QUESTION FOUR [20 marks]

a) Regardless of the environment, a robust and well-defined DSS architecture should contain details about certain elements. Identify six factors that must be considered in designing a DSS architecture. [6 Marks]
b) Describe the skills are necessary to be a DSS developer [4 Marks]
c) Explain four basic types of communication networks in group interactions [6 Marks]
d) Identify four of the common characteristics of a decision support system and describe how are they related to the decision making process? [4 Marks]

QUESTION FIVE [20 marks]

a) Several factors associated with the design of the DSS can be directly related to the quality of user interface. Identify four interface issues that are extremely important if the DSS is to become a success. [4 Marks]
b) Explain the seven steps of the process of change in the Kolb-Frohman Model.
[6 Marks]
c) Describe the activity-based typology of decisions. Give an example of each class.
[6 Marks]
d) Identify the generalized framework for DSS success evaluation suggested by Klein and Methlie(1995) [4 Marks]