MACHAKOS UNIVERSITY

University Examinations for 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN COMPUTER SCIENCE

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

SCO 420/SIT 414: DECISION SUPPORT SYSTEMS

DATE: 15/12/2017 **TIME: 2.00-4.00 PM**

INSTRUCTIONS

Answer question **ONE** and **Any** other **Two** among the four selective questions

QUESTION ONE (COMPULSORY)

a) Using a diagram, explain classification of decision structure (8 marks)

b) Differentiate between (6 marks)

i. Simulation and modelling.

ii. Blind search and heuristic search.

iii. Data mart and data warehouse

c) Briefly explain main components of DSSs (8 marks)

d) Describe any two common groupware tools in DSS (8 marks)

QUESTION TWO (20 MARKS)

a) Describe five phases of decision making using an example. (10 marks)

b) Discuss the following as used in DSS giving examples: (5 marks)

(i) optimization

(ii) Sensitive analysis

c) Explain the application of Decision Support systems in Search engines. (5 marks)

QUESTION THREE (20 MARKS)

a) Describe any three Artificially Intelligent approaches in DSS (9 marks)

b) Describe the application of semantic web in DSS. (6 marks)

c) State the four DSS development strategies according to S.L Alter's (4 marks)

d) Define virtual word (1 mark)

QUESTION FOUR (20 MARKS)

a) Discuss three categories of DSS development tools. (6 marks)

b) State any four characteristics of intelligent agents (4 marks)

c) A student would like attend a party. The decision will depend on weather outlook on rainfall, temperature, and wind. Use the following tools to represent knowledge for the student showing clearly the decisions to be made on any given weather condition.

   i. Decision tables

   ii. Decision trees (10 marks)

QUESTION FIVE (20 MARKS)

a) Using the mode of assistance as the criterion, differentiates four types of DSS (8 marks)

b) You an ICT officer for Machakos University. You are suppose to make a decision whether to develop a new system or to uprade the existing system. Use a decision tree to make the decision. (12 marks)