



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

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

SCO 419: DECISION SUPPORT SYSTEMS

DATE: 6/6/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer all questions in section A and any two questions from section B

QUESTION ONE (COMPULSORY)

- a) Differentiate between
 - i Model marts and model warehouses. (2 marks)
 - ii Tribes and avatas. (2 marks)
 - iii Algorithms and heuristic search methods (2 marks)
- b) Describe Simon's four phases of decision making using an example. (12 marks)
- c) Describe why web tools are typically used for DSS interfaces (4 marks)
- d) Describe any two groupware tools including their applications in DSS (8 marks)

QUESTION TWO (20 MARKS)

- a) Using a well labelled diagram, explain the basic architecture of DSS (10 marks)
- b) Discuss the following sensitive analysis by giving examples: (5 marks)
 - (i) What-if analysis
 - (ii) Goal Seeking Analysis
- c) Relate XML to knowledge management and to knowledge portals. (5 marks)

QUESTION THREE (20 MARKS)

- a) List any three current popular virtual worlds apart from WebEx. (3 marks)
- b) State any two advantages, limitations and applications of semantic web. (6 marks)

- c) Explain any three flexibility of intelligent agents (6 marks)
- d) Describe the process of renting a place for a virtual meeting, using companies such as WebEx. (5 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the elements of the model management subsystem of DSS (8 marks)
- b) Describe the following tools for knowledge harvesting (6 marks)
 - i Neural networks,
 - ii Fuzzy logic,
 - iii Case-based reasoning systems
- c) Define genetic algorithm and explain its basic process flow (use a diagram for basic process flow) (6 marks)

QUESTION FIVE (20 MARKS)

- a) State any five properties of DSS (5 marks)
- b) You an ICT officer for Machakos University. You are suppose to make a decision whether to develop a new system or to upgrade the existing system. Use a decision tree to make the decision. (15 marks)