



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

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AUGUST – DECEMBER 2018 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

CMT 445: BUSINESS INTELLIGENCE

Date: DECEMBER 2018

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

Q1. a) Define the following terms explaining their meaning

- i) Business Intelligence [2 marks]
- ii) Data Warehouse [2 marks]
- iii) Data Mining [2 marks]
- iv) Decision Tree [2 marks]
- v) Web Mining [2 marks]

b) Using appropriate diagrams, describe the Business Intelligence data processing chain. [6 marks]

c) What are the key elements of a data warehouse? Describe each. [8 Marks]

d) What are the major mistakes to be avoided when doing data mining, mention and explain at least **four** [4 Marks]

e) Describe the term click stream analysis in web mining [2 marks]

Q2. a) Describe a Decision support system (DSS) [2 marks]

b) What are the fundamental differences between supervised and unsupervised Learning techniques? [4 marks]

- c) Explain at least **four** reasons as to why decision trees are the most popular classification technique? **[4 marks]**
- d) What are some of the most popular data mining techniques, briefly explain **five**. **[10 marks]**
- Q3. a) What is an Artificial Neural Network (ANN) and how does it work? **[4 marks]**
- b) Explain Association rule mining identifying its major area of use. Describe one algorithm used in association rule mining. **[6Marks]**
- c) Using appropriate diagrams, explain the **two** development approaches in building a Data Warehouse **[10 Marks]**
- Q4. a) Briefly describe Text mining **[2 Marks]**
- b) Explain **three** areas within Marketing where Text mining can be positively applied **[9 Marks]**
- c) Using an appropriate diagram(s) discuss the major components of a text mining architecture **[9 Marks]**
- Q5. a) What are the **three** types/divisions of web mining **[3 marks]**
- b) What are the **two** major ways that a website can become popular, briefly explain **[4 marks]**
- c) Identify and briefly explain **two** web mining algorithms **[4 marks]**
- d) Using an appropriate diagram discuss the major components of a web usage mining architecture **[9 Marks]**

END