FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

FIRST SEMESTER 2015/2016 EXAMINATION

COURSE CODE:	IMT 412
COURSE TITLE:	DATA MINING II
CREDIT UNITS:	2
TIME ALLOWED:	2 hours
COURSE LECTURER(S):	I. O. ALABI
NUMBER OF QUESTIONS:	4
NUMBER OF PAGES:	2 (INCLUDING THIS PAGE)

INSTRUCTIONS

- Answer all questions
- Do **not** use red pen
- Please use a clear handwriting
- This exam is closed book, closed notes, closed laptop and closed cell phone
- Please use non-programmable calculators only

1. a) Explain briefly the following:
   i) Supervised learning ii) Data mining techniques iii) Data mart
   iv) Data Warehouse   v) Market-basket transactions (*2 marks each*).

   b) What are the major data mining processes. Discuss any 2 data mining techniques you know? (5 marks)

2. a) Explain the following, use sketches as necessary:

   i) Binary attributes   ii) Nominal attributes   iii) Ordinal attributes
   iv) Continuous attributes   v) Class label   (*2 marks each*).

   b) Sketch a lattice for all possible item-sets I = { a,b,c,d,e}. (*5 marks*).

3.   a) What is a Coincidence matrix? Illustrate with a simple 2-class classifier and use it to explain the concept of:
   i) True-Positive ii) False Positive iii) False Negative, and iv) True
                                                    Negative.
                                                    (10 marks).

   b) State the formulae of coincidence matrix then use it to calculate the Error rate and Accuracy rate of the 2-class classifier whose results are shown in the table. (5 marks)

		Class 1	Class 2
Class 1		674	91
Class 2		89	146

4. a) State the association rule and its metrics. (*10 marks*)

   b) What is the essence of association analysis? (*5 marks*)