NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCE
2020_2 EXAMINATIONS

COURSE CODE: DAM301
COURSE TITLE: Data Mining and Data Warehousing
CREDIT: 3 Units
TIME ALLOWED: 2 ½ Hours
INSTRUCTION: Answer Question 1 and any other FOUR (4) Questions

1.a. Outline the steps in the knowledge discovering in databases process.**(10½ marks)**

b. Compare the goals of data mining and that of online analytical processing.**(3 marks)**

c. Briefly explain the scope of data mining again the backdrop of the following:

i. Automated prediction of trends and behaviours.. **(1 mark)**
ii Automated discovery of previously unknown patterns.. **(1 mark)**

d. Briefly highlight the following data mining technologies.

i. Neural network .**(1½ marks)**
ii. K-Nearest Neighbour. **(1½ marks)**
iii. Genetic algorithms. **(1½ marks)**

e. Differentiate between a data warehouse and a data mart. **(2 marks)**

2. a. Outline in a tabular form, the steps in the evolution of data mining detailing the business question, the enabling technologies, product providers and the characteristics of each evolutionary step.**(9 marks)**

b. Distinguish between clustering and regression.**(3 marks)**

3. a. Outline any seven data mining challenges hindering the implementation of data mining.**(7 marks)**

b. Relate how multivariate adaptive repression splines (MARS) addressed the shortcomings of classification and regression trees (CART).**(5 marks)**

4.a. Highlight the following data reduction techniques:

i. dimensionality reduction **(4 marks)**

ii. data cube aggregation**(3 marks)**
iii. data compression**.(2 marks)**
b. . Outline four techniques of noisy data removal**.(3 marks)**

5.a. Briefly explain the following categories of constraint-based data mining:

i. knowledge type **(1 mark)**
ii. Rule **(1 mark)**
iii. Dimension/level **(1 mark)**
iv. Data **(1 mark)**
v. interestingness**(1 mark)**

b. Outline the techniques that can be used in mining time series data**.(7 marks)**

6.a. Give a broad characterization of data warehouse architecture.**(2 marks)**

b. Differentiate between OLAP and OLAP server.**(5marks)**

c. Outline the benefits of OLAP technology.**(5 marks)**