NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATICS
DEPARTMENT OF SOFTWARE ENGINEERING

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE	
QUALIFICATION CODE: 07BACS	**LEVEL:** 7
COURSE: DATA AND WEB MINING	**COURSE CODE:** DWM710S
DATE: JUNE 2023	**SESSION:** THEORY
DURATION: 3 HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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MODERATOR:	MRS JOSEPHINA MUNTUUMO

THIS QUESTION PAPER CONSISTS OF 4 PAGES
(Including this front page)

INSTRUCTIONS TO STUDENTS

1. Answer all questions.
2. All questions must be answered in the Answer Booklet. Clearly indicate the question number for each answer.
3. The allocation of marks is an indication of the extent of the expected answer. Answering more than expected does not result in higher marks. Keywords alone are not enough.
4. There are no books, notes or any other additional aids allowed in the examination.
5. Please, ensure that your writing is legible, neat and presentable.

Question 1 [8 Marks]

Discuss briefly whether or not each of the following activities is a data mining task.

a)   Dividing the customers of a company according to their profitability. [4 Marks]

b)   Monitoring the heart rate of a patient for abnormalities. [4 Marks]

Question 2 [4 Marks]

What is the difference between data mining and pattern evaluation?

Question 3 [4 Marks]

List the four primitives for the specification of a data mining task.

Question 4 [6 Marks]

Please list six statistical techniques in data mining.

Question 5 [5 Marks]

a)   What is the predictive model? [2 Marks]

b)   Please list the tasks that belong to the predictive model. [3 Marks]

Question 6 [9 Marks]

According to the classifications of data mining systems, based on the kinds of Knowledge mined, please list them:

a)   According to functionalities. [7 Marks]

b)   According to levels of abstraction of the knowledge mined. [2 Marks]

Question 7 [7 Marks]

List at least seven challenges to data mining regarding data mining methodology and user interaction issues.

Question 8 [4 Marks]

Define and provide an example to explain support and confidence in association rule mining.

Question 9 [4 Marks]

List the different classifications of association rule mining.

a)   Based on the types of values handled in the rule. [2 Marks]

b) Based on the dimensions of data involved. [2 Marks]

Question 10   [4 Marks]

What is the purpose of the Apriori algorithm?

Question 11   [5 Marks]

What are the fields in which clustering techniques are used?

Question 12   [5 Marks]

What are the different types of data used for cluster analysis?

Question 13   [4 Marks]

Explain the difference between nominal and ordinal scaled variables.

Question 14   [2 Marks]

What is the hierarchical method?

Question 15   [6 Marks]

How is data mining used in the banking industry?

Question 16   [2 Marks]

What is spatial data mining?

Question 17   [8 Marks]

What are the factors involved while choosing a data mining system?

Question 18   [4 Marks]

What is the difference between data integration and data reduction?

Question 19   [2 Marks]

What are the discretization processes involved in data preprocessing?
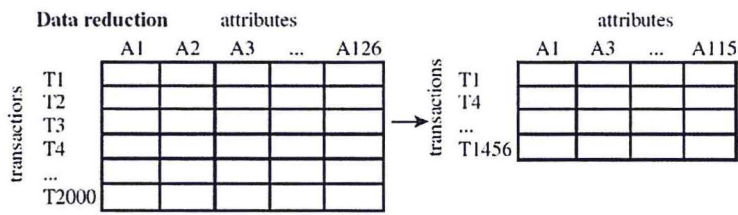
Question 20   [4 Marks]

What is the difference between characterization and classification?

Question 21   [3 Marks]

Suppose you are preparing for a data mining exam at the University of Namibia, and you come across a diagram as shown below. Describe how you would approach answering a

question about the content of the diagram during the exam.

<<<<<<End of Exam Paper>>>>>