

PAN AFRICA CHRISTIAN UNIVERSITY

BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

END OF SEMESTER EXAMINATION

DEPARTMENT: COMPUTING AND INFORMATION TECHNOLOGY

COURSE CODE: BIT407

COURSE TITLE: BUSINESS INTELLIGENCE AND ANALYTICS

CAMPUS: ROYSAMBU

EXAM DATE: WEDNESDAY XXXXX/APRIL, 2025

TIME: 5:30PM -8:30PM

INSTRUCTIONS

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other Three questions in Section **B**.
- Write only your **student number** on the answer booklet provided.

SECTION A

(Answer ALL questions in this section)

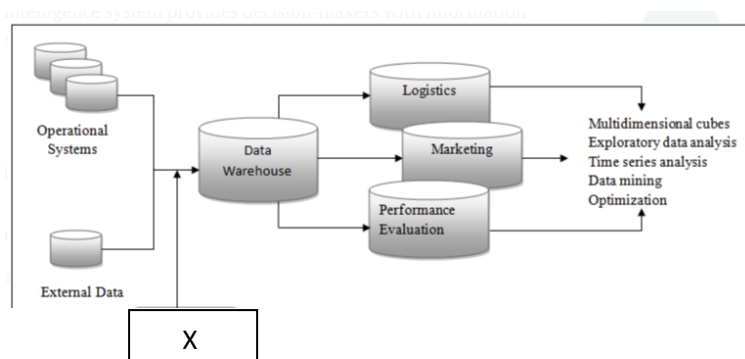
Question 1:

a) "Business intelligence focuses on descriptive analytics." Justify this statement.

[3]

Marks]

b) Study the diagram below of a business intelligence architecture. Use it to answer the questions that follow.



i. Identify the component labelled X.

[1]

Mark]

ii. Describe the function of the labelled X component.

[2]

Marks]

c) Outline four key components of business intelligence strategy.

[4]

Marks]

SECTION B

(Answer any THREE (3) questions in this section)

Question 2:

a) Explain how business Intelligence tools can be used by banks on the following sections, giving an appropriate example from the Kenyan context: -

[10]

Marks]

i. Performance Budgeting

ii. Product innovation

- iii. Customer profitability
- iv. Regulatory compliance
- v. Risk Management

Question 3:

a) Justify why data mining is classified under predictive analytics.

[5

Marks]

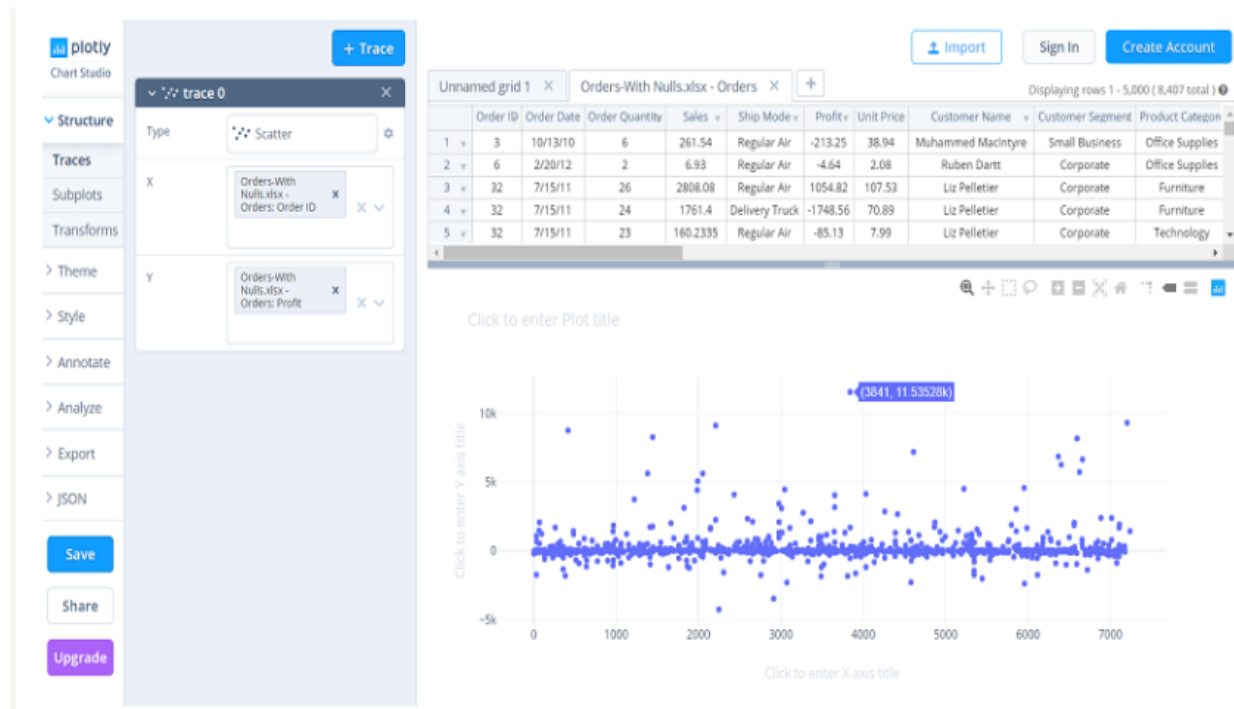
b) Prescriptive analysis is considered to be a step further ahead of predictive analytics and substantially different from it. Justify this statement, provide an example of each.

[5

Marks]

Question 4:

a) Given the following data visualization tool.



i. Identify the name of the tool.

[1

Mark]

ii. Describe importance of using the above tool.

[3

Marks]

iii. State three application areas of the above tool.

[3

Marks]

b) High quality dataset is necessary for subsequent use in business intelligence. Determine three factors that may affect data quality.

[3

Marks]

Question 5:

a) Explain two circumstances where a multi- dimensional database would be more suitable than a relational database.

[4

Marks]

b) If a database is given sufficient size and quality, data mining technology can generate new business opportunities.

i. List three real application areas of data mining.

[3

Marks]

ii. Highlight which data mining techniques can be applied for each application area in (i) above.

[3 Marks]

Question 6:

a) In Natural Language Processing, syntactic analysis is used to assess how the natural language aligns with the grammatical rules. Outline the syntax techniques stated below:

[4

Marks]

- i. Identifying the part of speech for every word.
- ii. Reducing the various inflected forms of a word into a single form for easy analysis.
- iii. Cutting the inflected words to their root form.
- iv. Undertaking grammatical analysis for the provided sentence.

b) Golden palm restaurant is seeking an advice on use of text mining. As an expert, advice the restaurant on how they will apply the following text mining techniques to gain customers' experiences toward purchased products and services; **[6 Marks]**

- i. Information Extraction
- ii. Information Retrieval
- iii. Clustering

EOF