PAN AFRICA CHRISTIAN UNIVERSITY

Where Leaders are Made

UNIVERSITY EXAMINATIONS: 2025/2026

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

BSIT/BIT 407

BUSINESS INTELLIGEMCE & ANALYTICS

END TERM EXAMINATION

PHYSICAL

EXAM DATE: **WEDNESDAY**

TIME: **8:00AM – 10:00AM**

DATE: APRIL, 2026 **TIME: 2 HOURS**

INSTRUCTIONS: Question One is Compulsory, Choose Three Other Questions

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Section ONE Compulsory

Question One

Discuss the application of business intelligence and analytics using the following areas of operation;

a) College enrolment and admissions department. **[5 Marks].**
b) E-Commerce Industry. **[5 Marks]**
c) Explain the importance of data cleansing during data capture and acquisition. **[5 Marks].**

Section Two (II) Answer any 3 questions

Question Two.

a) Give an overview of a Distributed Intelligent agent. **[5 Marks]**
b) Discuss the following characteristics of machine learning agents under the following subtopics;
   i. Rationality. **[2 ½ Marks]**
   ii. Mobility. **[2 ½ Marks]**
   iii. Learning/adaptation. **[2 ½ Marks]**
   iv. Veracity. **[2 ½ Marks]**

Question THREE 10 Marks:

a) Business Intelligence is an applications and technologies that help companies to analyze changing trends in market share; changes in customer behaviour and spending patterns; customers' preferences; company capabilities; and market conditions.

i. Discuss TWO ways how the utilization of customer data through BI will contribute to improving customer satisfaction and loyalty at Pac University. **[5 marks]**
ii. Explain how business intelligence tools assist in monitoring and analyzing market trends, competitor activities, and industry dynamics. **[5 marks]**
iii. Discuss TWO roles of business intelligence in analysing spending patterns of customers and how it aids in developing targeted pricing strategies for a mobile telephony company. **[5 Marks]**

Question FOUR 10 Marks:

a) Discuss how you would explain if a software or a machine has passed a Turing test. **[5 Marks].**

b) Discuss the architecture and structure of any data warehouse. **[5 Marks].**

a) Illustrate the structure of decision trees and their applications. **[5 Marks].**

Question Five 10 Marks:

a) Highlight in details TWO major challenges that affect Business intelligence in the area of machine learning. **[5 Marks].**
b) Enumerate any THREE programming languages where BI is developed. **[6 Marks]**
c) Illustrate the following forms of data storage before it can be considered prime for use by any business intelligence and analytic tool.
   i. Data Marts
   ii. Central Data warehouse. **[4 Marks]**

Question Six 10 Marks:

a) Discuss how the following attributes of BI would work to achieve the underlying Goals.
   i. Timeliness.
   ii. Accuracy.
   iii. Acceptance. **[9 Marks].**
b) The Business Intelligence concepts can be decomposed into the following Parts, discuss each.
   i. Data Capture.
   ii. Data Access/& Analysis. **[6 Marks].**

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