NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF MARKETING, LOGISTICS AND SPORT MANAGEMENT

QUALIFICATION: BACHELOR OF PROCUREMENT AND SUPPLY CHAIN MANAGEMENT	
QUALIFICATION CODE: 07BPSM	**LEVEL: 6**
COURSE CODE: FDA621S	**COURSE NAME: FORECASTING AND DATA ANALYSIS**
SESSION: JANUARY 2025	**PAPER: THEORY**
DURATION: 3 HOURS	**MARKS: 100**

2ND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Mr Pius Shifeta FM/PM/DI (EENHANA)
MODERATOR:	Dr Gloria Tshoopara

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

QUESTION 1: MATCHING **[20 MARKS]**

a) Match the scenarios below with the applicable technique. You must not rewrite the scenario. Write the appropriate technique that best describes the scenario. E.g., 1. Cycles

Scenario	Technique
1. A forecast used for new product planning, capital expenditures, facility location or expansion, and R&D typically utilize a	Time series
2. When an independent party poses questions to individual experts relating to an underlying forecasting problem. With an aim to seek to form a consensus forecast by providing feedback to the various experts in a manner that prevents identification of individual positions	MAD
3. A forecasting technique that uses advertising initiatives to determine demand	Trend
4. A forecasting method that does not rely on any rigorous mathematical computations.	Cycles
5. Sequence of data points that are measured typically at successive times at regular time intervals is known as:	Strategic forecast
6. Using the latest observation in a sequence of data to forecast the next period is	Weighted moving average
7. A forecast based on the previous forecast plus a percentage of the forecast error	MAPE
8. Data exhibit a steady growth or decline over time.	Simple Linear regressions
9. Data exhibit upward and downward swings in over a very long-time frame.	Qualitative data methods
10. Eliminate the problem of positive errors cancelling negative errors	Delphi method
	Exponential smoothing forecast
	Executive Opinion
	Naïve forecasting

b) Choose a company of your choice and convince them why any five roles of Forecasting in Supply Chain Planning are important to their operations. Provide practical examples of your choice. [20 marks]

QUESTION 2: **[30 MARKS]**

You are given the following partial demand and forecast data for a product:

period	Quarter	Sales
2020	1	400
	2	430
	3	600
	4	469
2021	1	398
	2	656
	3	488
	4	565
2022	1	502
	2	489
	3	690
	4	490

Your manager tells you they can't afford to acquire a forecasting system. So, they asked you to forecast using the naïve method.

2.1 Stable demand

a) Assuming stable demand for this product, create a forecast from 2020 until quarter 1 of 2023.[6]

b) Calculate MAPE [4]

2.2 Trend variations

a) Assume a trend variation within your data forecast from 2020 until quarter 1 of 2023. [6]

b) Calculate the MAPE [4]

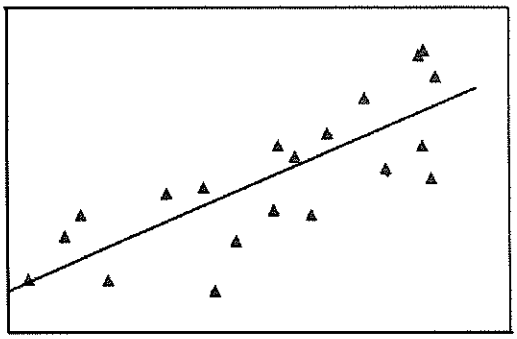
2.3 Seasonal variations

a) Assume there is seasonality within your data forecast for the 2021, 2022 and 2023 quarters. [6]

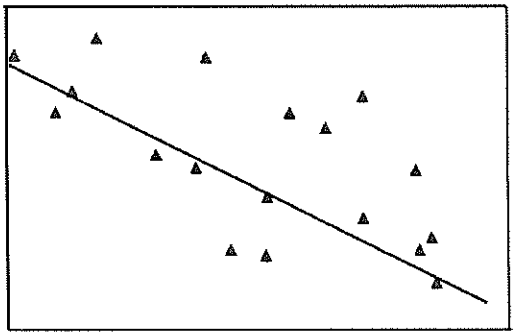
b) Calculate the MAPE [4]

QUESTION 3 **[30 MARKS]**

The below graph represents data analysis conducted to determine any correlation between the selling price of the house and the house sales in respective geographic locations.



Graph 1



Graph 2

(a) What forecasting method was used in the above scenario? [2 mark]

(b) With practical examples, interpret the results of each graph [12 marks]

(c) A retail bank informed you that Windhoek home Price (X, in millions of dollars) is related to home sales (Y, in hundreds of thousands of Namibian dollars), denoted by the regression equation $Y = 6.67 + 0.87x$.

What is your sales forecast for house sales in Klein Windhoek when the price is, on average, N$1.5 million, using the data below? [8 marks]

(d) What is your interpretation of the regression analysis for house sales in Windhoek when the output shows a result of 0.00000045 for the F-statistic tests? [8 marks]

GRAND TOTAL: 100 MARKS