



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

JANUARY-APRIL 2024

SCHOOL OF BUSINESS

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DEPARTMENT OF ACCOUNTING AND FINANCE

BACHELOR OF COMMERCE

CBF 422: FINANCIAL MODELLING AND FORECASTING

DATE: APRIL 2024

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

Q1.

- a) Distinguish between a model and a prediction. (4 Marks)
- b) Highlight four uses of forecasts. (6 Marks)
- c) Describe three components of time series. (6 Marks)
- d) The management of a Raiply Co. Ltd believes that if the economy is in recession, the next year's sales will be KES 3,000,000 and if the economy is in prosperity KES 3,300,000. Their most likely estimate is \$3,100,000. Use PERT method to generate an expected value of sales come next year. (6 Marks)
- e) Discuss four reasons cited by corporations for using planning models. (8 Marks)

Q2.

- a) i) The following information relates to the demand data for 8 years.

Year	2016	2017	2018	2019	2020	2021	2022	2023
Actual	300	305	303	307	309	320	325	327

Required; Forecast the demand for the year 2024 using the trend analysis method.

(6 Marks)

ii) Highlight three drawbacks of using trend analysis method in forecasting. **(6 Marks)**

b) Describe four factors that determine the choice of a forecasting method. **(8 Marks)**

Q3.

a) The marketing manager at Ishilili industries limited believes that the amount of sales of solar panels that the company makes is related to the number of TV adverts that are placed in the local TV stations. The following data relates number of TV adverts and sales volume collected on solar panels sales at Ishilili industries limited

Number of TV adverts	Sales volume (solar panels units)
30	120
25	135
38	130
40	138
32	140
45	160
50	180
60	200
55	170

Required:

i) Using regression method estimate a model for the above financial behavior. **(11 Marks)**

ii) Forecast the sales when the number of TV adverts is 58. **(3 Marks)**

b) Explain the essence of smoothing techniques in forecasting. **(6 Marks)**

Q4.

a) The following data relates to Sudi engineering Corporation. The firm forecasts a 20% increase in sales. The most recent income statement and a balance sheet for Tana is as below: -

Income statement

	<u>Shs.(000)</u>
Sales	1000
Costs	<u>800</u>
Net Income	200
Dividends	100

Balance Sheet

	Shs. (000)		Shs. (000)
Equity	2,200.00	fixed Asset	3,600.00
Long term debt	1,520.00	Current Assets	800.00
CL	<u>600.00</u>		
	<u>4,400.00</u>		<u>4,400.00</u>

Reliable estimates say that the costs will remain at 80% of sales and all Current assets, Current Liabilities & Fixed Assets are assumed to be proportional to sales and dividend payout ratio will remain at 50%,

Required;

- i) A proforma income statement for the coming Financial period. **(7 Marks)**
 - ii) A projected balance sheet for the coming Financial period. **(7 Marks)**
- b) Describe three ways of how forecasts can be monitored. **(6 Marks)****

END