CFN401: FINANCIAL MODELLING AND FORECASTING
END OF SEMESTER EXAM
APRIL 2026
EXAM

INSTRUCTIONS:
Answer **Question One** (compulsory) and any other **THREE** questions

QUESTION ONE (30 MARKS)

a) XYZ welfare group is a new investment team specializing on the returns from the Financial Assets Investments. Being their first time to venture in this area, the group very cautious in the investment choice. The leaders have approached you for professional advice on the building blocks of a good financial forecast. As a financial analyst Advice. (6Marks)

b) i) Discuss the weaknesses of the High–Low method in cost estimation (4Marks)
ii) Briefly describe any two cash management models (3Marks)

c) Furaha Ltd. wishes to estimate its financial requirements for the next two years (2023 and 2024) using the pro forma financial statement approach**.** The company's statement of financial position as at 31 December 2022 is summarized below (Sh. '000):

Assets	
Net fixed assets	124,800
Inventory	38,400
Trade debtors	28,800
Cash	7,200
Total assets	**199,200**
Equity and Liabilities	
Ordinary share capital	84,000
Retained earnings	35,200
Total equity	119,200
12% long-term debt	20,000

Trade creditors	36,000
Accrued expenses	24,000
Total equity and liabilities	**199,200**

For the year ended 31 December 2022, sales amounted to Sh. 250,000,000.
The firm projects that:

- Sales will increase by 20% in 2023 and 25% in 2024.
- After-tax profit margin is expected to be 10% of sales for both years.
- The firm will maintain a dividend payout ratio of 70%.
- All assets and liabilities vary directly with sales, except:
    - Trade creditors and accrued expenses, which are spontaneous sources of finance.
- Any additional funds required will be raised through commercial paper.

Required

i. Prepare the pro forma statement of financial position for Furaha Ltd. as at 31 December 2023 and 31 December 2024.(8 Marks)
ii. Determine the external financing needed for each of the two years.(5Marks)

d) Discuss any two methods used in forecasting. (4Marks)

QUESTION TWO (10 MARKS)

a) Identify and explain four key purposes of financial modeling that would be relevant to the firm's expansion decision. (4 marks)
b) The following data relates to advertising expenditure and sales revenue of a firm over six periods:

Period	**Advertising Cost (KSh '000')**	**Sales (KSh '000')**
1	50	400
2	60	450
3	70	500
4	80	540
5	90	600
6	100	650

Assume advertising cost is the independent variable (X) and sales revenue is the dependent variable (Y).

Required:

Estimate the linear regression equation of the form: $Y = a + bX$ and use the regression equation to forecast sales revenue if advertising expenditure is KSh 110,000. (6Marks).

QUESTION THREE (10 MARKS)

a) The following information relates to Baraka Traders Ltd for the years ended 31 December 2023 and 2024.

Income Statement (KSh '000')

Item	**2023**	**2024**
Sales	2,000	2,500
Cost of Goods Sold	1,200	1,550
Gross Profit	800	950

Operating Expenses	500	620
Net Profit	300	330

Required: i) Prepare a common-size income statement for each year (4Marks)
ii) Interpret the results of the analysis above (2Marks)
c) Explain the four main components of a time series. (4Marks)

QUESTION FOUR (10 MARKS)

a) XYZ Ltd reported sales of KSh 12,000,000 in the current year. Management is preparing forecasts for the next year under three different scenarios.

The following assumptions apply:

Item	**Base Case**	**Best Case**	**Worst Case**
Sales growth rate	8%	15%	3%
Cost of goods sold (% of sales)	60%	55%	65%
Operating expenses (% of sales)	20%	18%	22%

Required:
i) Calculate the projected sales revenue for each scenario. (4 marks)
ii) Compute the gross profit and operating profit for each scenario. (6 marks)

QUESTION FIVE (10 MARKS)

a) Financial modeling and forecasting are critical tools for managerial decision-making in modern organizations.

i) Using a practical business context of your choice, explain how historical financial data is analyzed and transformed into forecasting assumptions when building a financial model. (5 marks)

ii) With reference to spreadsheet-based financial models**,** discuss two limitations of using computer applications in financial modeling and forecasting and explain how these limitations can affect decision quality**.** (5 marks)