

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2014/2015**

**YEAR 4 SEMESTER I&II EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE**

**HBF 2403: FINANCIAL MODELLING AND FORECASTING**

**DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS: Answer Question One and Any Other Two Questions**

**QUESTION ONE**

1. Explain the need for financial forecasting (4marks)
2. Highlight the limitations of ratio analysis as a technique of financial statement analysis. (4marks)
3. Discuss the advantages of budgeting to an organization (4marks)
4. You are provided with the following data for January-December 2014

Month Jan Feb March Aprl May June Jul Aug Sep Octo Nov Dec

Sales 450 440 460 410 380 400 370 360 410 420 430 400

Shs ‘000’

Required

1. Conduct a three month moving average (4marks)
2. Forecast the sales for the month of January, 2015 (2marks)
3. Distinguish between the following terminologies as used in forecasting
4. Interpolation and extrapolation (4marks)
5. Additive model and multiplicative model in time series (4marks)
6. Discuss the adjustments required when analyzing time series data (4marks)

**QUESTION TWO (20 marks)**

1. Highlight the assumptions of multiple regression analysis (6marks)
2. The data below shows how total reverse varies with prices of a commodity and advertisement expenditure

Y1 90 72 54 42 30 12

X1 3 5 6 8 12 14

X2 16 10 7 4 3 2

Where Y1=Total revenue (TR)

 X1=Advertisement expenditure

 X2=Price level

Total revenue is assumed to be a linear function of price and advertisement expenditure and it is of the nature

$y\_{i}=B\_{0}+B\_{1}X\_{1}+B\_{2}X\_{2}$

Required;

1. Fit a linear regression equation that shows that total revenue varies with price level and advertisement expenditure (10marks)
2. What would be the level of total revenue when price is sh5 and advertisement expenditure is sh9 (4marks)

**QUESTION THREE (20 marks)**

1. What is common size analysis of financial statements (3marks)
2. Sh12,000,000 is the current sales position of Umoja ltd as at 31st December 2014. The company has established that its assets and liabilities vary in the following fixed proportions to sales levels at any point in time;

Current assets 0.40

Net fixed assets 0.30

Creditors 0.15

Accruals 0.05

The proportions to sales are maintained throughout. The forecasted annual growth rate in sales has been established at 25%.

Income statement items have also been established to vary directly in proportion to the level of sales. Cost of sales and administration expenses comprise 40% and 15% of the sales level respectively. On the other hand, selling and distribution expenses comprise 10% of sales level while operating expenses have been established at 15% of the sales level.

The company has a 100% dividend retention policy and suffers a corporate tax rate of 40% on the earnings before tax.

As at 31st December 2014 the company’s capital structure appeared as follow:

 Sh

Share capital 4,400,000

Long-term liabilities 2,200,000

Retained earnings 1,200,000

Notes 600,000

 8,400,000

Required;

Proforma balance sheet and income statement financial statements after 3 years (17marks)

**QUESTION FOUR (20 marks)**

1. Differentiate between fixed budget and flexible budget. (4marks)
2. The following table represents company sales over the past 12 months

Month Sales

Jan 1200

February 1280

March 1310

April 1270

May 1190

June 1290

July 1410

August 1360

September 1430

October 1280

November 1410

December 1390

The company is considering exponential smoothing constant of 0.3 to forecast future sales

Required;

Determine next January’s forecast (10marks)

1. Highlight the characteristics of a good forecasting system (6marks)