MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ECONOMICS AND STATISTICS

BACHELOR OF ECONOMICS

EAE 403: FINANCIAL ECONOMICS

DATE: 21/1/2021 **TIME: 8.30-10.30 AM**

INSTRUCTIONS:

- **(i) Answer question one (Compulsory) and any other two questions**
- **(ii) Do not write on the question paper**
- **(iii) Show your working clearly**

QUESTION ONE (COMPULSORY) (30 MARKS)

a) A stock has an expected return of 16.2 percent, a beta of 1.75, and the expected return on the market is 11 percent. What must the risk-free rate be? (4 marks)

b) Describe the types of markets evident within a financial market. (6 marks)

c) 'The value of a firm can be manifested through a number of business interests'. Discuss. (12 marks)

d) Bernard will receive Ksh.10,000 three years from now. If Bernard can earn 8 percent on his investments, what is the present value of his future cash flow? (4 marks)

e) Explain the following terminologies as used in financial economics; (4 marks)

- i) Moral hazard
- ii) Corporate finance
- iii) Arms' length transaction
- iv) Unsystematic risk

QUESTION TWO (20 MARKS)

a) Bruce & Co. expects its EBIT to be $140,000 every year forever. The firm can borrow at 9 percent. Bruce currently has no debt, and its cost of equity is 17 percent. If the tax rate is 35 percent, what is the value of the firm? What will the value be if Bruce borrows $135,000? (7 marks)

b) A customer of Chaffkin wants to buy a boat today. Rather than paying immediately, he will pay ksh.50,000 in three years. It will cost the Chaffkin ksh.38,610 to build the tugboat immediately. What interest rate would the Chaffkin charge to neither gain nor lose on the sale? (4 marks)

c) Explain two methods that form the basis of market theory of business valuation. (4 marks)

QUESTION THREE (20 MARKS)

a) Suppose you are the financial manager of Kenya Power & Lighting Electricity Company. What kinds of goals do you think would be appropriate? (10 marks)

b) Money, Inc., has no debt outstanding and a total market value of $225,000. Earnings before interest and taxes (EBIT) are projected to be $19,000 if economic conditions are normal. If there is strong expansion in the economy, then EBIT will be 30 percent higher. If there is a recession, then EBIT will be 60 percent lower. There are currently 5,000 shares outstanding. Calculate earnings per share (EPS) under each of the three economic scenarios before any debt is issued. (5 marks)

c) Define the term 'secondary markets' and explain its role in a given financial market. (5 marks)

QUESTION FOUR (20 MARKS)

a) Suppose there are only two stocks in the world: stock A and stock B. The expected returns of these two stocks are 10 percent and 20 percent, while the standard deviations of the stocks are 5 percent and 15 percent, respectively. The correlation coefficient of the two stocks is zero.

   i) Calculate the expected return and standard deviation of a portfolio that is composed of 30 percent A and 70 percent B (4 marks)

   ii) Calculate the expected return and standard deviation of a portfolio that is composed of 90 percent A and 10 percent B (4 marks)

   iii) Suppose you are risk averse, would you hold 100 percent stock A? (2 marks)

b) Explain the Adjusted Net-Asset Value and Excess Earnings methods under the Asset-Based theory of firm valuation. (4 marks)

c) Explain two capitalization assumptions when valuing the business of a firm. (6 marks)

QUESTION FIVE (20 MARKS)

a) Unity airlines is currently an unlevered firm. The company expects to generate perpetual USD 153.85 in EBIT. The corporate tax rate is 35%. All earnings after tax are paid out as dividends. The firm is considering a capital restructuring to allow USD 200 in debts. It's cost of debt is 10%. Unlevered firm in the same industry have a cost of equity capital of 20%. What is the old and new value of Unity Airlines?

(6 marks)

b) Highlight the components of stock returns in any financial market using the relevant equation. (8 marks)

c) Linda invested $1,000 at a continuously compounded rate of 10 percent for two years. What will be the value of her wealth at the end of 2 years? (3 marks)

d) Which are the assumptions that must hold to prove that value of a levered firm is equal to value of unlevered firm in a world without taxes. (3 marks)