KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF ECONOMICS

EAE 403: FINANCIAL ECONOMICS

DATE: Tuesday, 28th November, 2017 TIME: 11.00 a.m. - 1.00 p.m.

INSTRUCTIONS:

Answer question **ONE (Compulsory)** and any other **TWO** questions. Question **ONE** carries 30 marks and the rest carry 20 marks each.

Question One

a) Decide whether the following statements are **True**, **False** or **Uncertain**. Briefly explain your answers.

   i) According to the CAPM, everyone should hold the same portfolio.

   ii) There is no benefit to diversification if asset returns are uncorrelated.

   iii) Stocks are safer in the long-run (i.e. if you can afford to hold them for a long time)

   iv) Unsystematic risk arises on account of firm-specific factors.

   v) In valuation, excess earnings represent the estimated value of intangibles.

(10 marks)

b) Firm Z and Y have identical cash flows. Firm Z is 40% debt financed and 60% equity financed, while firm Y is 0% debt financed and 100% equity financed. The same required rate of return on their debt equals 10%.

   a) Next period's cash flows for each firm are 100,000. Assume both firms pay out all excess cash in the form of dividends. What cash flows go to the debt and equity holders of both firms? Assume no corporate taxes and the debt borrowed by Z is Kshs.40,000 at 10% interest rate. (4 marks)

   b) You own 10% of firm Z's stock. What cash flow will you get in the future?

(2 marks)

c) Given this scenario explain theoretically how arbitrage will achieve equilibrium in the between the two firms. (4 marks)

c) Generally individuals show a time preference for money, explain any two reasons for that preference. (4 marks)

d) Explain any six assumptions of the capital asset pricing model. (6 marks)

Question Two

a) i) State (using an equation) and explain the relationship between risk and return using the multifactor version of Arbitrage Pricing Theory (APT). (4 marks)

ii) Explain four advantages of the Arbitrage Pricing Theory over the Capital Asset Pricing Model. (4 marks)

b) In the valuation and capital budgeting for levered companies, the net present value of the firm side effects has to be considered. Briefly highlight and explain four key side effects that have to be considered. (6 marks)

c) Explain three reasons why secondary markets are important in the financial system. (6 marks)

Question Three

a) Security X and Y have the following characteristics under different states of the economy

State of economy	Probability	Returns for X (%)	Returns for Y (%)
A	0.05	30	-20
B	0.25	20	10
C	0.30	10	20
D	0.30	5	30
E	0.10	-10	40

Required:

i) Compute the expected return, variance and standard deviation for each of the individual securities. (10 marks)

ii) If the investment have equal weights, calculate the expected return for the portfolio. (2 marks)

iii) Compute the covariance for Security X and Y. (3 marks)

iv) Calculate the variance and standard deviation of the portfolio. (3 marks)

v) Comment on the difference between the standard deviation of the individual securities and the portfolio. (2 marks)

Question Four

a) The social value of the financial sector can be assessed in terms of its direct relevance as a service to the average person in providing financial services. Define financial intermediation and discuss the value of financial sector to an economy. (8 marks)

b) The net cash flow is the preferred measure of economic benefit in the income approach. Discuss. (6 marks)

c) Given that $i = 5\%$ use calculation to show that

$$FVIFA_{i,4} = FVIF_{i,3} + FVIF_{i,2} + FVIF_{i,1} + FVIF_{i,0}$$ (6 marks)

Question Five

a) Tuk-Tuk Car Hire Ltd is a rental taxi company that is considering adding 25 taxis to its fleet. The Company depreciates its rental taxis over a 5 year period using straight line method. The new taxis are expected to generate Kshs.430,000 per year in earnings before taxes and depreciation for 5 years. The company is entirely financed by equity and has a 38 per cent tax rate. The required return on company unlevered equity is 13 percent and the new fleet will not change the risk of the company.

i) What is the maximum price that the company should be willing to pay for the new fleet of taxis if it remains an all equity company. (4 marks)

ii) Assume that Tuk-Tuk Car Hire Ltd can purchase the fleet of cars for Kshs.395,000. Additional, assume the company can issue Kshs.260,000 of five-year, 8 percent debt to finance the project. All principal will be repaid in one balloon payment at the end of the fifth year. What is the adjusted present value of the project? (5 marks)

b) Explain the steps to be taken in valuation of firms using the excess earnings method. (8 marks)

c) What is the required rate of return for a stock with a beta of 1.2, when the risk-free rate is 6% and the expected market return is 12%? (3 marks)

iv) Calculate the variance and standard deviation of the portfolio. (3 marks)

v) Comment on the difference between the standard deviation of the individual securities and the portfolio. (2 marks)

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