AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative Masters Programme in Economics for Anglophone Africa (Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2016

JUNE - SEPTEMBER

FINANCIAL ECONOMICS II

Second Semester: Final Examination

Duration: 3 Hours **Date: Wednesday, September 21, 2016**

INSTRUCTIONS:

1. There are **FIVE** questions in this examination.
2. You are required to answer **ANY FOUR** questions.
3. All questions carry equal marks.
4. Be neat and clear, and start each question on a new page.

Question 1: [25 marks]

(a) Econet Wireless expects free cash flows amounting to $90,000 every year forever. Econet currently has no debt, and its cost of equity is 17%. The firm can borrow at 10%. The corporate tax rate is 35%. The company has been contemplating a change of the capital structure but does not know what impact that will have on its value.

(i) Determine the current value of the firm. *(2 marks)*

(ii) Determine the value of Econet Wireless:

1. If it converts to 50% debt. *(2 marks)*
2. If it converts to 100% debt. *(2 marks)*

(iii) Discuss the key factors that would need to be considered when finding an optimal capital structure for this firm. *(10 marks)*

(b) Kgalagadi Breweries Ltd. operates two lines of business: alcoholic drinks with an estimated value of KES 10 billion and soft drinks with an estimated value of KES 15 billion. The following information applies to the company:

Business line	Average levered Beta (β)	Average D/E ratio
Alcoholic drinks	0.92	25%
Soft drinks	1.17	50%

Currently the firm has a debt-to-equity ratio of 1. Tax rate for the firm is 40%. Assume the current risk-free rate is 6% and the market risk premium is 5.5%. Estimate the cost of equity, clearly showing your workings. *(9 marks)*

Question 2: [25 marks]

(a) Maps Kudasaky is analysing the merger of two firms with data as follows:

Business line	Matenga	Panda
Free cash flows in Year 0	$100,000	$200,000
Beta	1.2	1.0
Growth rate (infinite)	10%	6%

Both firms are selling at a fair market value before the takeover. Panda plans to take over Matenga and pay a 50% premium over the market value because it expects considerable synergy. Neither firm has any debt outstanding. The risk-free rate is 6% and the market rate is 14.5%.

(i) Assuming no synergy, determine how much worth Matenga's stock would be and how much worth Panda's stock would be. ***(5 marks)***

(ii) Still assuming no synergy, determine how much the combined firm, Pandamatenga, would be worth. ***(3 marks)***

(iii) In order for the 50% premium to be justified, determine how much the growth rate of the combined firm would have to be. ***(3 marks)***

(b) JFE Company has been under pressure from some investors to increase dividends. A financial analyst has been asked to look at the current dividend policy and some factors that might cause the company to change its dividend policy in the next few years. The following table presents some of the basic information concerning the dividend policy (EPS is earnings per share and DPS is dividend per share on an annual basis):

Year	EPS	DPS	Price
2015	2.05	0.30	20.30
2014	1.55	0.30	12.30
2013	1.70	0.25	14.20
2012	0.90	0.25	9.80
2011	0.85	0.25	8.50
2010	1.02	0.25	10.20

The average payout ratio in the industry is about 25%, and the industry is believed by many financial analysts to be in the rapid expansion stage. It is also observed that on average there was a drop in share price in the range of 60% to 80% of the dividends announced on the ex-dividend day.

(i) Calculate the average dividend payout ratio and dividend yield for the company for the last few years (show your workings). ***(10 marks)***

(ii) Explain whether the firm's dividend policy significantly deviates from the industry average. How can you explain the payout ratios in the few years indicated in the table? ***(4 marks)***

Question 3: [25 marks]

(a) TSN Home Products, Ltd. recently issued $430,000, 8% convertible debentures due in two years. Each convertible bond has a face value of $1,000, and can be converted into 24.25 shares of common stock anytime before maturity. The stock price is $31.25, and the market value of each bond is $1,180.

(i) Determine the value of the bond without being convertible. (*2 marks*)

(ii) Discuss what the convertible option might do to the price, explaining when the option is used and when it is likely to be exercised. (*8 marks*)

(b) Katutura Co. Ltd. is a local company engaged in the gemstones and affiliated products. It has three shares of stock outstanding. On Wednesday 14th October 2015, the company's assets consisted of five ounces of platinum, which are currently worth $1,000 per ounce. On Thursday 15th October 2015, Katutura Co. Ltd. issued Mr. Martin Morocky a warrant for its fair value of $1,000. The warrant gives Mr. Morocky the right to buy a single share of the firm's stock for $2,100 and can be exercised only on its expiration date one year hence, i.e. on 15th October 2016. Katutura Co. Ltd. used the proceeds from the issuance to immediately purchase an additional ounce of platinum.

(i) Reveal the price of a single share of Katutura Co. Ltd. stock before the warrant was issued. (*3 marks*)

(ii) Determine the price of a single share of Katutura Co. Ltd. stock immediately after the warrant was issued. (*5 marks*)

(iii) Assuming that platinum is selling for $1,100 per ounce on the date of expiration of the warrant in October 2016, determine what the value of a single share of Katutura Co. Ltd. stock will be on the date of expiration of the warrant. (*7 marks*)

Question 4: [25 marks]

(a) Describe 'Investment Banks' and explain their role in financial markets. In your answer explain how investment banks differ from commercial banks. (*15 marks*)

(b) Provide a succinct explanation of how insurance companies are affected by adverse selection and moral hazard. Explain further how the companies deal with each of the problems. (*10 marks*)

Question 5: [25 marks]

(a) Explain the following concepts used in international finance:

(i)	American Depository Receipt (ADR)	(*2 marks*)
(ii)	Cross rate	(*2 marks*)
(iii)	Euro	(*1 mark*)
(iv)	Eurobonds	(*2 marks*)
(v)	Eurocurrency	(*2 marks*)
(vi)	Foreign bonds	(*2 marks*)
(vii)	LIBOR	(*2 marks*)

(b) According to behavioural finance, human beings and particularly investors possess certain cognitive or behavioural biases that can lead to their systematic deviations from a standard of rationality or good judgement in making investment decisions.

Discuss the importance of behavioural biases, then list and explain four behavioural biases. (*12 marks*)