The Co-operative University of Kenya

END OF SEMESTER EXAMINATION DECEMBER -2018

EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE / BACHELOR OF CO-OPERATIVE BUSINESS
(YR II SEM I)

UNIT CODE: CMPR 1203

UNIT TITLE: FINANCIAL RISK MANAGEMENT

DATE: 10TH DECEMBER, 2018 **TIME: 9:00 AM – 11:00 AM**

INSTRUCTIONS:

- Answer question **ONE (compulsory)** and any other **TWO** questions

QUESTION ONE

(a) Consider a nine moth futures contract on a non-dividend paying stock with a share price of sh.60 and a risk rate of 10% per annum. The theoretical futures price is sh.64.67. Determine the cash and carry arbitrage opportunity if the actual future price available in the market is: (7 marks)

i. Sh. 65
ii. Sh. 64

(b) If the Tanzanian shilling exhibits a 6 month interest rate of 18% p.a. while the Kenyan shilling exhibits a 6 month interest of 15% p.a.

Required: (8 marks)

i. If the current spot rate is Ksh.0.06 = Tsh. 1, compute the 6 month forward rate of the Tanzanian shilling with respect to the Kenyan shilling in accordance with the interest rate parity theory.
ii. Compute the forward rate premium (or discount) of the Tanzanian shilling with respect to Kenyan Shilling
iii. Compute the gain from covered interest arbitrage to a Kenyan investor with Ksh.10 million for a six month period.

(c) State and explain the main fundamental differences between forward and future contracts. (5 marks)

(d) State and explain the main advantages of using interest rate swaps in risk management. (5 marks)

(e) The Black and Scholes option pricing model though very useful in pricing options suffers from some limitations. Highlight FIVE limitations of the model (5 marks)

QUESTION TWO

(a) Consider a call option on an investment with the following characteristics;

Time to expiry
Estimated cost sh.20 million
Present value of net receipts 15 million
Volatility of cash flows 28.3%
Risk free rate 60%

Required:

Using the Black – Scholes option pricing model, calculate the value of a call option (15 marks)

(b) Assume you are to calculate the value of a put option on the same, what value would you quote? (5 marks)

QUESTION THREE

(a) Discuss FOUR types of risks associated with swaps (8 marks)

(b) Atlanta Ltd. wishes to raise sh.15 million of floating rate finance. The company's bankers have suggested using a five year swap. Atlanta Ltd can raise fixed finance at 11.35% of floating rate LIBOR plus 60 basis points. Trenton Plc can raise fixed rate finance at 12.8% of floating rate at LIBOR plus 1.35%. A five year interest rate swap on the sh.15 million loan can be arranged with Barclays Bank acting as intermediary for a fee of 0.25% p.a Atlanta Ltd will agree to the swap if it can make annual saving of at least 40 basis points. LIBOR is currently 10.5% (12 marks)

Required:

i. Evaluate whether or not the swap is likely to be agreed

ii. Estimate the present value of the differences in cash flow that would exist for Atlanta Ltd from using a floating rate swap rather than borrowing fixed rate directly in the market if, LIBOR moves to 11.8% after one year and then remains constant

QUESTION FOUR

(a) Assume that the Canadian dollar's spot rate is Ksh.85 and that the Canadian and Kenyan inflation rates are similar. Then assume that Canada experiences 4% inflation, while Kenya experiences 3% inflation. According to the purchasing power parity, determine the new value of Canadian dollar after it adjusts to the inflationary changes. (6 marks)

(b) A Kenyan Company owes a Ugandan supplier Ush.3, 500, 000 in three months time. The spot rate is Ush 25.55 – 29.89 = Ksh. 1. The company can borrow in Kenyan shillings for three months at 7.20% per annum and can deposit in Ugandan shillings for three months at 9.3% per annum. Calculate the cost in Kenyan shillings with a money market hedge. (8 marks)

(c) The following two quotes of the Kenyan currency (KSH) and the Cambodian currency (KHR), against the American Dollar (USD) is provided below:

KSH 103.6889 – 103.8889 = USD 1

USD 0.0002464 – 0.0002475 = KHRI

Required:

Determine the cross exchange rate of the Kenyan currency to the Cambodian currency KSH / KHR (6 marks)

QUESTION FIVE

(a) Discuss the sensitivity measures that determine the value of call and put measures (option greeks) (10 marks)

(b) Briefly explain the following types of derivative instruments (10 marks)

i. Equity derivatives
ii. FX derivatives
iii. Commodity derivatives
iv. Interest rate derivatives
v. Credit derivatives